

REFERENCE 4: 144:380339

REFERENCE 5: 142:381946

REFERENCE 6: 142:381945

REFERENCE 7: 142:228466

L23 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2007 ACS on STN

RN 146162-64-3 REGISTRY

ED Entered STN: 25 Feb 1993

CN Aluminum, bis(2-methyl-8-quinolinolato-κN1,κO8) (2-naphthalenolato)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

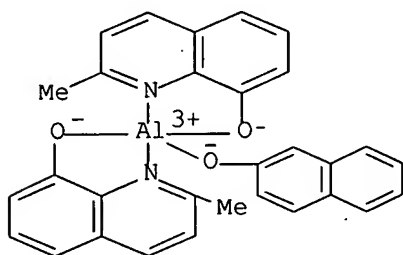
CN Aluminum, bis(2-methyl-8-quinolinolato-N1,O8) (2-naphthalenolato)-

MF C30 H23 Al N2 O3

CI CCS

SR CA

LC STN Files: CA, CAPLUS, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 143:469728

REFERENCE 2: 141:268185

REFERENCE 3: 139:299047

REFERENCE 4: 136:60514

REFERENCE 5: 119:105561

REFERENCE 6: 118:157402

=> d his

(FILE 'HOME' ENTERED AT 15:22:03 ON 02 AUG 2007)

SET COST OFF

FILE 'HCAPLUS' ENTERED AT 15:22:48 ON 02 AUG 2007

L1 2 S US20050233164/PN OR (US2005-509390# OR JP2003-3776 OR JP2002-

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      E TSUJI/AU
      E TSUJI T/AU
L2      265 S E3
L3      22 S E19,E20
      E TSUJI NAME/AU
L4      22 S E4
      E TAISHI/AU
L5      15 S E12
      E TAI SHI/AU
      E MIYAZAKI/AU
L6      2 S E3
      E MIYAZAKI H/AU
L7      208 S E3,E4
L8      681 S E72
      E MIYAZAKI NAME/AU
L9      62 S E4
      E HIROSHI/AU
L10     14 S E3
      E HIROSHI M/AU
L11     0 S E3
      E PIONEER/PA,CS
L12     764 S E44-E48,E61-E84
L13     6 S E85-E91
      E PIONEER/CO
      E E28+ALL
L14     824 S E2,E3
      E E1+ALL
L15     2242 S E2+RT
L16     5053 S PIONEER?/PA,CS,CO
      E NIPPON STEEL/CO
      E E17+ALL
      E E1+ALL
L17     42821 S E2+RT
      E NIPPON STEEL/PA,CS
L18     38834 S (NIPPON?(L)STEEL?)/PA,CS
L19     1 S L1 AND L2-L18
      SEL RN

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FILE 'REGISTRY' ENTERED AT 15:29:40 ON 02 AUG 2007

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L20     2 S E1-E2
L21     1 S L20 AND AL/ELS
L22     1 S C36H27ALN2O3/MF
L23     2 S L21,L22

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FILE 'HCAPLUS' ENTERED AT 15:31:14 ON 02 AUG 2007

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L24     13 S L23
L25     5 S L24 AND L1-L19
L26     1 S L24 AND PY<=2002 NOT P/DT
L27     3 S L24 AND (PD<=20020329 OR PRD<=20020329 OR AD<=20020329) AND P
L28     4 S L26,L27
L29     1 S L28 AND L25
L30     4 S L28,L29
      E ELECTROLUMINESC/CT
L31     58733 S E4 OR E8+OLD,NT
L32     58557 S E8-E19
L33     1 S E28
      E E4+ALL
      E E2+ALL
L34     12213 S E8+OLD
      E E7+ALL

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L35 270192 S E3+OLD,NT
E E45+ALL
L36 65427 S E3+NT
E E19+ALL
L37 10390 S E11+NT
L38 42169 S (C09K011 OR H05B033)/IPC, IC, ICM, ICS
L39 4 S L30 AND L31-L38
L40 4 S L30 AND ?LUMINESC?
L41 4 S L39,L40

FILE 'USPATFULL' ENTERED AT 15:36:06 ON 02 AUG 2007

L42 7 S L23
L43 3 S L42 AND (PD<=20020329 OR PRD<=20020329 OR AD<=20020329)

FILE 'REGISTRY' ENTERED AT 15:36:42 ON 02 AUG 2007

=> fil uspatful

FILE 'USPATFULL' ENTERED AT 15:36:54 ON 02 AUG 2007

CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Aug 2007 (20070802/PD)

FILE LAST UPDATED: 2 Aug 2007 (20070802/ED)

HIGHEST GRANTED PATENT NUMBER: US7251834

HIGHEST APPLICATION PUBLICATION NUMBER: US2007180593

CA INDEXING IS CURRENT THROUGH 2 Aug 2007 (20070802/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Aug 2007 (20070802/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2007

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2007

=> d l43 bib abs hitstr tot

L43 ANSWER 1 OF 3 USPATFULL on STN

AN 2005:267848 USPATFULL Full-text

TI Organic electroluminescence element

IN Tsuji, Taishi, Tsurugashima-shi, JAPAN
Miyazaki, Hiroshi, Kitakyushu-shi, JAPAN

PI US 2005233164 A1 20051020

AI US 2003-509390 A1 20030327 (10)

WO 2003-JP3776 20030327

20050628 PCT 371 date

PRAI JP 2002-96908 20020329 <--

DT Utility

FS APPLICATION

LREP SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., SUITE 800,
WASHINGTON, DC, 20037, US

CLMN Number of Claims: 14

ECL Exemplary Claim: 1

DRWN 3 Drawing Page(s)

LN.CNT 543

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

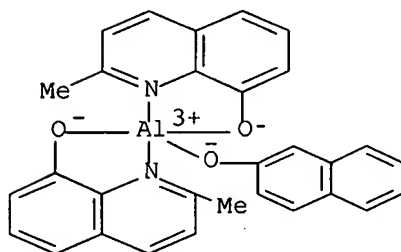
AB An organic electroluminescence device of a long emission life is obtained by stacking an anode, a hole transport layer comprising an organic compound, a light emitting layer comprising an organic compound, an electron transport layer comprising an organic compound, and a cathode, in which the light emitting layer comprises an organic host material of an aluminum chelating complex of a specific structure and a phosphorescent organic guest material.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146162-64-3

(organic electroluminescent device using aluminum bis(2-methyl-8-quinolinolato)(naphthalenolato) as host material)

RN 146162-64-3 USPTAFULL

CN Aluminum, bis(2-methyl-8-quinolinolato- $\kappa N1, \kappa O8$)(2-naphthalenolato)- (9CI) (CA INDEX NAME)

L43 ANSWER 2 OF 3 USPTAFULL on STN

AN 92:79195 USPTAFULL Full-text

TI Blue emitting internal junction organic electroluminescent device (II)

IN Van Slyke, Steven A., Rochester, NY, United States

Bryan, Philip S., Webster, NY, United States

Lovecchio, Frank V., Webster, NY, United States

PA Eastman Kodak Company, Rochester, NY, United States (U.S. corporation)

PI US 5150006

19920922

<--

AI US 1991-738777

19910801 (7)

<--

DT Utility

FS Granted

EXNAM Primary Examiner: Willis, Jr., Prince; Assistant Examiner: Steinberg, Thomas

LREP Hawley, J. Jeffrey

CLMN Number of Claims: 34

ECL Exemplary Claim: 1,11

DRWN 3 Drawing Figure(s); 2 Drawing Page(s)

LN.CNT 1606

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

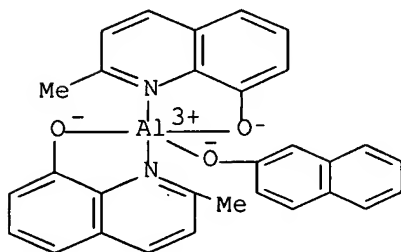
AB An internal junction organic electroluminescent device is disclosed comprised of, in sequence, an anode, an organic hole injecting and transporting zone, an organic electron injecting and transporting zone, and a cathode. The organic electron injecting and transporting zone is comprised of an electron injecting layer in contact with the cathode and, interposed between the electron injecting layer and the organic hole injecting and transporting zone, a blue emitting luminescent layer comprised of an aluminum chelate containing a phenolato ligand and two R.sup.S -8-quinolinolato ligands, where R.sup.S substituents are chosen to block the attachment of more than two substituted 8-quinolinolato ligands to the aluminum atom. The presence of the phenolato ligand shifts device emission to the blue region of the spectrum and increases emission efficiency. Device emission is shifted to even shorter blue wavelengths and increased operating stability can be realized by the incorporation of a pentacarboxylic aromatic fluorescent dye.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146162-64-3P

(preparation and use of, in electroluminescent devices)

RN 146162-64-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato- κ N1, κ O8)(2-naphthalenolato) - (9CI) (CA INDEX NAME)

L43 ANSWER 3 OF 3 USPATFULL on STN

AN 92:70060 USPATFULL Full-text

TI Mixed ligand 8-quinolinolato aluminum chelate luminophors

IN Bryan, Philip S., Webster, NY, United States

Lovecchio, Frank V., Webster, NY, United States

VanSlyke, Steven A., Rochester, NY, United States

PA Eastman Kodak Company, Rochester, NY, United States (U.S. corporation)

PI US 5141671 19920825 <--

AI US 1991-738751 19910801 (7) <--

DT Utility

FS Granted

EXNAM Primary Examiner: Willis, Jr., Prince; Assistant Examiner: Steinberg, Thomas

LREP Hawley, J. Jeffrey

CLMN Number of Claims: 30

ECL Exemplary Claim: 1,10

DRWN 1 Drawing Figure(s); 1 Drawing Page(s)

LN.CNT 1104

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A blue-emitting luminescent composition is disclosed comprised of an aluminum chelate containing a phenolato ligand and two R.sup.s -8-quinolinolato ligands, where R.sup.s substituents are chosen to block the attachment of more than two substituted 8-quinolinolato ligands to the aluminum atom. The presence of the phenolato ligand shifts emission to the blue region of the spectrum. Emission can be shifted to even shorter blue wavelengths by the incorporation of a pentacarbocyclic aromatic fluorescent dye.

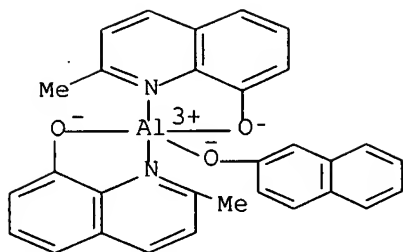
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146162-64-3P

(preparation and use of, as electroluminescent materials)

RN 146162-64-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato- κ N1, κ O8)(2-naphthalenolato) - (9CI) (CA INDEX NAME)



=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 15:37:02 ON 02 AUG 2007

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FILE COVERS 1907 - 2 Aug 2007 VOL 147 ISS 6

FILE LAST UPDATED: 1 Aug 2007 (20070801/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l41 bib abs hitstr retable tot

L41 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:796823 HCAPLUS Full-text

DN 139:299047

TI Organic electroluminescent device using aluminum bis(2-methyl-8-quinolinolato)(naphthalenolato) host material

IN Tsuji, Taishi; Miyazaki, Hiroshi

PA Pioneer Corporation, Japan; Nippon Steel Chemical Co., Ltd.

SO PCT Int. Appl., 62 pp.

CODEN: PIXXD2

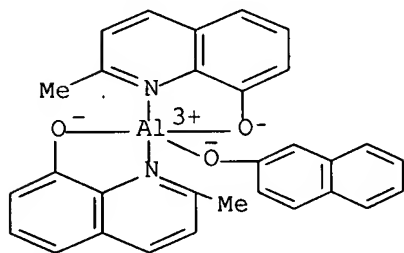
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003083009	A1	20031009	WO 2003-JP3776	20030327 <--
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
 PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
 TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2003227239 A1 20031013 AU 2003-227239 20030327 <--
 EP 1493797 A1 20050105 EP 2003-715461 20030327 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 CN 1643109 A 20050720 CN 2003-807394 20030327 <--
 US 2005233164 A1 20051020 US 2005-509390 20050628 <--
 PRAI JP 2002-96908 A 20020329 <--
 WO 2003-JP3776 W 20030327
 AB The invention refers to an organic electroluminescent device comprising an Al
 bis(2-methyl-8-quinolinolato)(naphthalenolato) complex as a host and a
 phosphorescent guest material.
 IT 146162-64-3
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device using aluminum
 bis(2-methyl-8-quinolinolato)(naphthalenolato) as host material)
 RN 146162-64-3 HCAPLUS
 CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8)(2-
 naphthalenolato)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Tohoku Pioneer Corp	2001			JP 2001326080 A1	HCAPLUS
Toyo Ink Manufacturing	2001			JP 2001271063 A	HCAPLUS

L41 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:749888 HCAPLUS Full-text

DN 136:60514

TI Organic light-emitting device with a mixed ligand 8-quinolinolato aluminum
 chelate as emitting and electron transporting material

AU Giro, G.; Cocchi, M.; Di Marco, P.; Fattori, V.; Dembech, P.; Rizzoli, S.

CS Istituto FRAE Consiglio Nazionale delle Ricerche, Bologna, 40129, Italy

SO Synthetic Metals (2001), 123(3), 529-533

CODEN: SYMEDZ; ISSN: 0379-6779

PB Elsevier Science S.A.

DT Journal

LA English

AB Double layer (DL) electroluminescent devices, made with TPD (75%) in
 polycarbonate (PC) and with a mixed ligand 8-quinolinolato aluminum chelate as

electron transporting and emitting material, show higher electroluminescence (EL) quantum yield (2.2%) and an increased blue EL emission in comparison with tris-(8- hydroxyquinolinato)Al(III) (Alq3). The solid state photoluminescence (PL) quantum yield is as high as 60%, about five-fold the Alq3 value. In spite of the high PL yield, EL efficiency is not as high which can be attributed to a strong electron mobility dependence on the elec. field, which contributes to a slower increase with the field of the EL quantum yield.

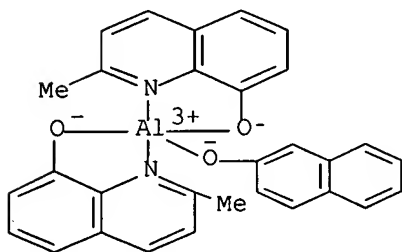
IT 146162-64-3

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)

(organic light-emitting device with a mixed ligand 8-quinolinolato aluminum chelate as emitting and electron transporting material)

RN 146162-64-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato- $\kappa N1, \kappa O8$) (2-naphthalenolato) - (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ballardini, R	1986	25	3858	Inorg Chem	HCAPLUS
Bryan, P	1992			US 5141671	HCAPLUS
Chen, C	1998	171	161	Coord Chem Rev	HCAPLUS
Fattori, V				unpublished results	
Garbuzov, D	1996	249	433	Chem Phys Lett	HCAPLUS
Garbuzov, D	1996	80	4644	J Appl Phys	HCAPLUS
Hamada, Y	1993	32	L514	Jpn J Appl Phys	HCAPLUS
Hamada, Y	1997			Organic Electrolumin	
Hopkins, T	1996	8	344	Chem Mater	HCAPLUS
James	1977			The Theory of the Ph	
Kalinowski, J	1999	32	R179	J Phys D: Appl Phys	HCAPLUS
Kalinowski, J	2001	34		J Phys D: Appl Phys,	
Kalinowski, J	2001	356	231	Mol Cryst Liq Cryst	
Kido, J	1998	73	2721	Appl Phys Lett	HCAPLUS
Kido, J	1997		593	Chem Lett	HCAPLUS
Kido, J	1997		963	Chem Lett	HCAPLUS
Matsumura, M	1996	35	5357	Jpn J Appl Phys	HCAPLUS
Tang, C	1989	65	3610	J Appl Phys	HCAPLUS
Tsutsui, T	1998	3281	320	Proc SPIE	
VanSlike, S	1992			US 5150006	HCAPLUS
Yu, J	1999	38	6762	Jpn J Appl Phys	HCAPLUS

L41 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1993:505561 HCAPLUS Full-text

DN 119:105561

TI Blue-emitting internal junction organic electroluminescent

device (II)

IN Van Slyke, Steven A.; Bryan, Philip S.; Lovecchio, Frank V.

PA Eastman Kodak Co., USA

SO U.S., 25 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5150006	A	19920922	US 1991-738777	19910801 <--
	CA 2074920	A1	19930202	CA 1992-2074920	19920729 <--
	CA 2074920	C	19970429		
	JP 05198378	A	19930806	JP 1992-205487	19920731 <--
	JP 3215510	B2	20011009		
	EP 534510	A1	19930331	EP 1992-202325	19920801 <--
	EP 534510	B1	19940914		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE

PRAI US 1991-738777 A 19910801 <--

OS MARPAT 119:105561

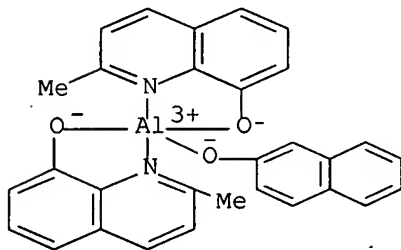
AB The title electroluminescent devices are provided with electron injection and transporting zones incorporating a luminescent layer formed from an Al chelate described by the general formula (R-Q)₂-Al-O-L (each Q = an independently selected substituted 8-quinolinolato ligand; R = an 8-quinolinolato ring substituent chosen to block the attachment of >2 substituted 8-quinolinolato ligands to the Al; and L = a Ph or aromatic fused ring moiety which can be substituted with hydrocarbon groups so that L has 6-24 C atoms).

IT 146162-64-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and use of, in electroluminescent devices)

RN 146162-64-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8) (2-naphthalenolato) - (9CI) (CA INDEX NAME)



L41 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1993:157402 HCAPLUS Full-text

DN 118:157402

TI Mixed ligand 8-quinolinolato aluminum chelate luminophors

IN Bryan, Philip S.; Lovecchio, Frank V.; VanSlyke, Steven A.

PA Eastman Kodak Co., USA

SO U.S., 18 pp.

CODEN: USXXAM

DT Patent

LA English

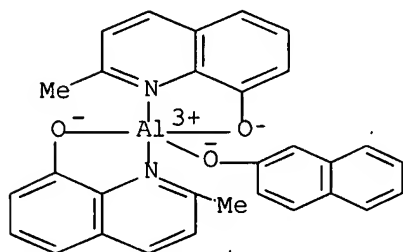
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI    US 5141671          A    19920825    US 1991-738751    19910801 <--
      CA 2086192          A1   19930202    CA 1992-2086192    19920729 <--
      EP 525904           A1   19930203    EP 1992-202324    19920801 <--
      EP 525904           B1   19941214
      R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
      JP 05214332          A    19930824    JP 1992-206685    19920803 <--
      JP 3149991          B2   20010326
PRAI  US 1991-738751      A    19910801    <--
OS    MARPAT 118:157402
AB    Luminescent comps. are described which comprise an Al chelate described by
      the general formula (R-Q)2-Al-O-L (Q = substituted 8-quinolinolato ligands; R
      = an 8-quinolinato ring substituent chosen to sterically block the attachment
      of >2 substituted 8-quinolinolato ring derivative to the Al atom; and L = a Ph
      or fused ring moiety which may be substituted with hydrocarbon groups so that
      L has 6-24 (atoms).
IT    146162-64-3P
      RL: SPN (Synthetic preparation); PREP (Preparation)
          (preparation and use of, as electroluminescent materials)
RN    146162-64-3  HCAPLUS
CN    Aluminum, bis(2-methyl-8-quinolinolato-KN1,KO8) (2-
      naphthalenolato) - (9CI)  (CA INDEX NAME)

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=> => fil uspatful

FILE 'USPATFULL' ENTERED AT 15:38:12 ON 02 AUG 2007

CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 2 Aug 2007 (20070802/PD)

FILE LAST UPDATED: 2 Aug 2007 (20070802/ED)

HIGHEST GRANTED PATENT NUMBER: US7251834

HIGHEST APPLICATION PUBLICATION NUMBER: US2007180593

CA INDEXING IS CURRENT THROUGH 2 Aug 2007 (20070802/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 2 Aug 2007 (20070802/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2007

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2007

=> d bib abs hitstr tot 148

L48 ANSWER 1 OF 4 USPATFULL on STN

AN 2007:166692 USPATFULL Full-text

TI Organic electronic device having dual emitter dopants

IN Wang, Ying, Wilmington, DE, UNITED STATES

PI US 2007145360 A1 20070628

AI US 2006-644491 A1 20061222 (11)

PRAI US 2005-754435P 20051228 (60)
 DT Utility
 FS APPLICATION
 LREP E I DU PONT DE NEMOURS AND COMPANY, LEGAL PATENT RECORDS CENTER, BARLEY
 MILL PLAZA 25/1128, 4417 LANCASTER PIKE, WILMINGTON, DE, 19805, US
 CLMN Number of Claims: 18
 ECL Exemplary Claim: 1
 DRWN 4 Drawing Page(s)
 LN.CNT 1040

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Electronic devices comprising an anode, buffer layer, hole transport layer, photoactive layer, electron transport layer, electron injection layer, and cathode are provided, where the photoactive layer comprises a dual dopant in a metallic complex. The dopants are selected so that their emitting wavelengths are essentially the same, while their ionization potentials and electron affinities are substantially different. The dual dopant device allows for tuning the ionization potential of one dopant to enhance hole injection and/or minimize hole trapping, while independently tuning the electron affinity of the other dopant to enhance electron injection and/or minimize electron trapping.

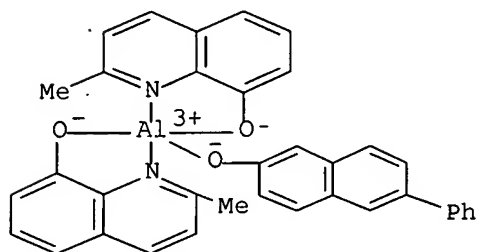
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 844435-92-3

(doped host; organic electroluminescent devices having mixed dual emitter dopants)

RN 844435-92-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8)(6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



L48 ANSWER 2 OF 4 USPATFULL on STN
 AN 2007:150243 USPATFULL Full-text
 TI Metal quinoline complexes
 IN Herron, Norman, Newark, DE, UNITED STATES
 Wang, Ying, Wilmington, DE, UNITED STATES
 PA E. I. du Pont de Nemours and Company, Wilmington, DE, UNITED STATES
 (U.S. corporation)
 PI US 7230107 B1 20070612
 AI US 2005-303664 20051215 (11)
 PRAI US 2005-694935P 20050628 (60)
 US 2004-640392P 20041229 (60)
 DT Utility
 FS GRANTED
 EXNAM Primary Examiner: Aulakh, Charanjit S.
 LREP Woodcock Washburn LLP
 CLMN Number of Claims: 20

ECL Exemplary Claim: 1
 DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
 LN.CNT 841
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB Provided are complexes of the formula:

##STR1## wherein:

M is selected from Ti, Zr, Hf, Nb, Re, Sn, and Ge,
 R.sup.1, R.sup.2, R.sup.3, R.sup.4, R.sup.5, R.sup.6, R.sup.7, and R.sup.8 are
 each independently F, Cl, CF.sub.3, diarylamine, carbazolyl, alkoxy,
 cyano, alkyl or aryl; and
 a, b, c, d, e, f, g, and h are each 0, 1, 2, or 3;
 provided that at least one of R.sup.1, R.sup.2, R.sup.3, R.sup.4, R.sup.5,
 R.sup.6, R.sup.7, and R.sup.8 is diarylamine or carbazolyl; or R.sup.1,
 R.sup.4, R.sup.5, and R.sup.7 are not all the same; or R.sup.2, R.sup.3,
 R.sup.6, and R.sup.8 are not all the same.

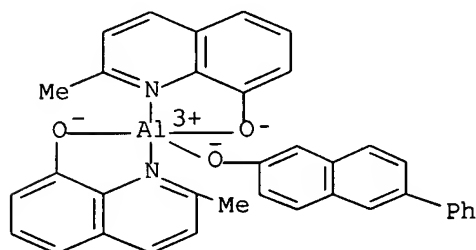
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 844435-92-3

(preparation of metal quinolinate complexes for use in OLED's)

RN 844435-92-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8)(6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



L48 ANSWER 3 OF 4 USPATFULL on STN

AN 2007:62014 USPATFULL Full-text

TI Aluminum chelate complex for organic el material

IN Matsuo, Shinji, Kitakyushu-shi, JAPAN

Miyazaki, Hiroshi, Kitayushu-shi, JAPAN

Tsuji, Taishi, Tsurugashima-shi, JAPAN

PA NIPPON STEEL CHEMICAL CO., LTD., TOKYO, JAPAN (non-U.S. corporation)

PIONEER CORPORATION, TOKYO, JAPAN (non-U.S. corporation)

PI US 2007054148 A1 20070308

AI US 2004-566725 A1 20040806 (10)

WO 2004-JP11334 20040806

20060713 PCT 371 date

PRAI JP 2003-289309 20030807

DT Utility

FS APPLICATION

LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747,
 US

CLMN Number of Claims: 9

ECL Exemplary Claim: 1

DRWN 1 Drawing Page(s)

LN.CNT 754

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention provides an organic EL material useful for the emissive layer of an organic EL element which deteriorates little in luminance when operated over a prolonged period of time and shows excellent durability. The material is an aluminum chelate complex which is represented by general formula (1) in which Ar.sub.1 is a mono- or bicyclic arylene group, Ar.sub.2 is a mono- or bicyclic aryl group, R.sub.1--R.sub.6 are hydrogen or hydrocarbon groups containing 1-8 carbon atoms and contains a compound represented by general formula (1) in which Ar.sub.2 is a halogen as an impurity in an amount of 350 wt ppm or less. ##STR1##

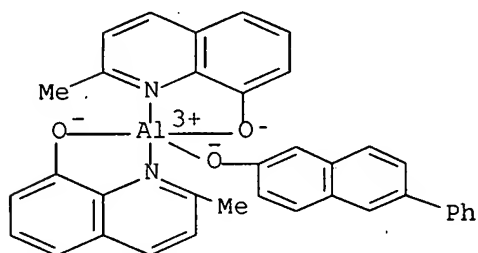
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 844435-92-3P

(aluminum chelate complex for organic electroluminescent material)

RN 844435-92-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato- κ N1, κ O8) (6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



L48 ANSWER 4 OF 4 USPATFULL on STN

AN 2006:160229 USPATFULL Full-text

TI Electroluminescent device

IN Hayoz, Pascal, Hofstetten, SWITZERLAND

Schafer, Thomas, Basel, SWITZERLAND

Bardon, Kristina, Waldshut, GERMANY, FEDERAL REPUBLIC OF

PI US 2006135766 A1 20060622

AI US 2004-546683 A1 20040218 (10)

WO 2004-EP50146 20040218

20050823 PCT 371 date

PRAI EP 2003-100501 20030228

EP 2003-102360 20030730

DT Utility

FS APPLICATION

LREP CIBA SPECIALTY CHEMICALS CORPORATION, PATENT DEPARTMENT, 540 WHITE PLAINS RD, P O BOX 2005, TARRYTOWN, NY, 10591-9005, US

CLMN Number of Claims: 16

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1101

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are electroluminescent devices that comprise organic layers that contain triazine compounds. The triazine compounds are suitable components of blue-emitting, durable, organo-electroluminescent layers. The

electroluminescent devices may be employed for full color display panels in, for example, mobile phones, televisions and personal computer screens.

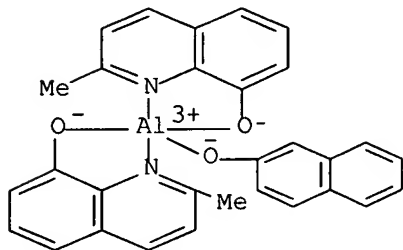
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 146162-64-3

(organic electroluminescent devices)

RN 146162-64-3 USPATFULL

CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8)(2-naphthalenolato)- (9CI) (CA INDEX NAME)



=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 15:38:24 ON 02 AUG 2007

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FILE COVERS 1907 - 2 Aug 2007 VOL 147 ISS 6

FILE LAST UPDATED: 1 Aug 2007 (20070801/ED)

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=> d bib abs hitstr retable tot 147

L47 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2007:700710 HCAPLUS Full-text

DN 147:104960

TI Organic electroluminescent devices having mixed dual emitter dopants

IN Wang, Ying

PA USA

SO U.S. Pat. Appl. Publ., 16pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2007145360	A1	20070628	US 2006-644491	20061222
PRAI	US 2005-754435P	P	20051228		

AB Electronic devices comprising an anode, buffer layer, hole transport layer, light-emitting layer, electron transport layer, electron injection layer, and cathode are provided, where the light-emitting layer comprises a dual dopant in a metallic complex. The dopants are selected so that their emitting wavelengths are essentially the same, while their ionization potentials and electron affinities are substantially different. The dual dopant device allows for tuning the ionization potential of one dopant to enhance hole injection and/or minimize hole trapping, while independently tuning the electron affinity of the other dopant to enhance electron injection and/or minimize electron trapping.

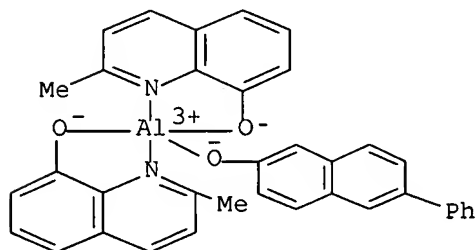
IT 844435-92-3

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(doped host; organic electroluminescent devices having mixed dual emitter dopants)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato- $\kappa N1, \kappa O8$) (6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



L47 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2007:633004 HCAPLUS Full-text

DN 147:44505

TI Metal quinolinato complexes for use in organic electronic devices

IN Herron, Norman; Wang, Ying

PA E. I. Du Pont De Nemours and Co., USA

SO U.S., 12pp.

CODEN: USXXAM

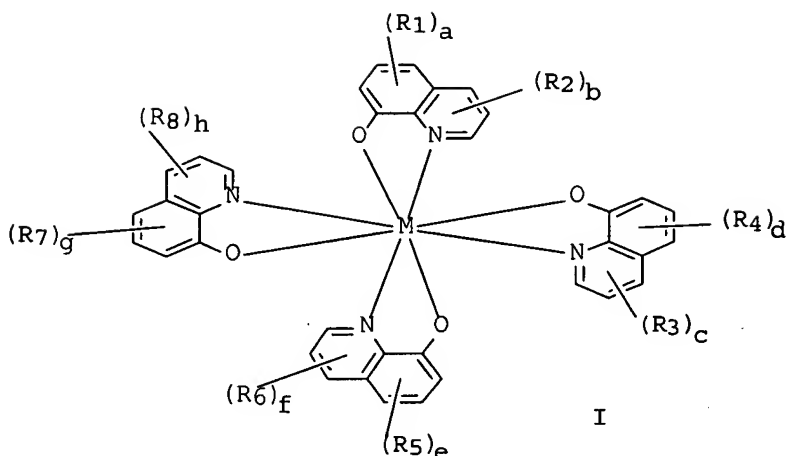
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 7230107	B1	20070612	US 2005-303664	20051215 <--
PRAI	US 2004-640392P	P	20041229		
	US 2005-694935P	P	20050628		

GI



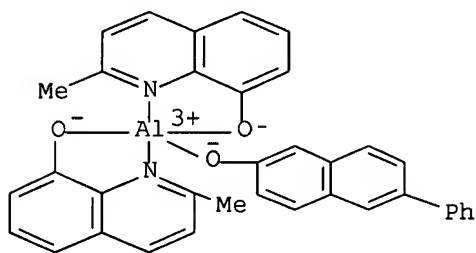
AB VProvided are homoleptic metal quinolinates I (M = Ti, Zr, Hf, Nb, Re, Sn, and Ge; R1-R8 are each independently F, Cl, CF₃, diarylamino, carbazolyl, alkoxy, cyano, alkyl or aryl; a-h are each 0, 1, 2, or 3; provided that at least one of R1-R8 is diarylamino or carbazolyl; or R1, R4, R5, and R7 are not all the same; or R2, R3, R6, and R8 are not all the same). The complexes are useful in organic layered electronic devices (OLED devices). Example compds., e.g., tetrakis(2-methyl-4-trifluoromethyl-8-hydroxyquinolinato)zirconium(IV), were prepared, incorporated in OLED devices by the thermal evaporation technique, and characterized by measuring current-voltage curves, electroluminescence radiance vs. voltage, and electroluminescence spectra vs. voltage.

IT 844435-92-3

RL: TEM (Technical or engineered material use); USES (Uses)
(preparation of metal quinolate complexes for use in OLED's)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato-κN1,κO8) (6-phenyl-2-naphthalenolato) - (9CI) (CA INDEX NAME)



L47 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:1120632 HCAPLUS Full-text

DN 145:446064

TI Organic electroluminescent material, organic electroluminescent device employing it and its manufacture

IN Matsuo, Shinji; Furumi, Hideyuki; Miyazaki, Hiroshi; Ishii, Kazuo; Yuki, Toshinao; Naijo, Tsuyoshi

PA Nippon Steel Chemical Co., Ltd., Japan; Tohoku Pioneer Corporation

SO PCT Int. Appl., 26pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006112225	A1	20061026	WO 2006-JP304975	20060314 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRAI JP 2005-102782 A 20050331

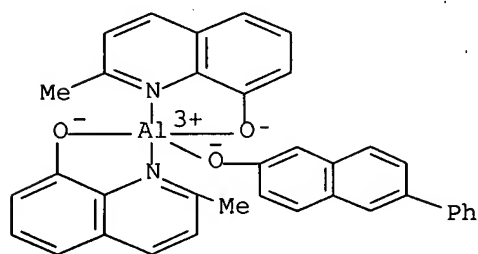
AB An aluminum chelate complex which is effective in stabilizing the degree of vacuum in a film deposition chamber during a vapor deposition step and which gives at a high production efficiency a high-quality organic EL element having excellent reliability and withstanding practical-level use. The organic EL material is an aluminum chelate complex which is represented by $L_1Al(L_2)_2$ and in which the content of complexes represented by $Al(L_2)_3$ is 0.6 mol% or lower. This complex is obtained by reacting an aluminum alkoxide with a quinolinol derivative, subsequently reacting the reaction product with a phenolic compound to form a complex, and purifying the complex to a high degree. In the formula, L1 represents a phenolate ligand and L2 represents a substituted 8-quinolinolate ligand.

IT 844435-92-3P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (organic electroluminescent material, organic electroluminescent device employing it and manufacture)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato- $\kappa N1, \kappa O8$) (6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Eastman Kodak Co	1993			JP 05-214332 A	HCAPLUS
Eastman Kodak Co	1993			US 5141671 A	HCAPLUS

Eastman Kodak Co	1993		EP 525904 A1	HCAPLUS
Mitsubishi Electric Cor	2004		JP 2004359671 A	HCAPLUS
Pioneer Electronic Corp	2001		JP 2001237079 A	HCAPLUS
Pioneer Electronic Corp	2001		JP 2001284056 A	HCAPLUS
Pioneer Electronic Corp	2001		US 200152751 A1	
Pioneer Electronic Corp	2001		US 200215859 A1	
Pioneer Electronic Corp	2001		US 6602618 B2	HCAPLUS
Skc Co Ltd	2003		WO 2003051796 A1	
Skc Co Ltd	2003		JP 2005511864 A	

L47 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:322757 HCAPLUS Full-text

DN 144:380339

TI Organic electroluminescent devices

IN Yamazaki, Kazuki; Mishima, Masayuki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 109 pp.

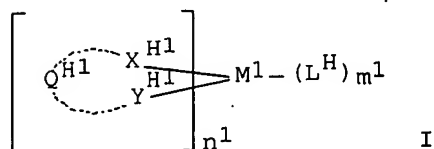
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2006093197	A	20060406	JP 2004-273203	20040921 <--
PRAI	JP 2004-273203		20040921		
OS	MARPAT 144:380339				
GI					



AB The devices contain light-emitting materials and host materials in the electroluminescent layers between a pair of electrodes. The light-emitting materials are metal complexes which have ≥3-position ligands, and the host materials are also metal complexes (I).

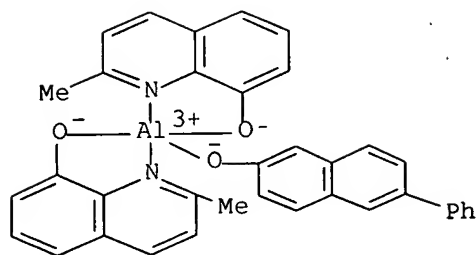
IT 844435-92-3

RL: DEV (Device component use); USES (Uses)

(host material; organic electroluminescent devices containing metal complexes and host materials in light-emitting materials)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8)(6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



L47 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:1200370 HCAPLUS Full-text

DN 143:469728

TI Organic compound for electroluminescent device

IN Schaefer, Thomas; Bardon, Kristina

PA Ciba Specialty Chemicals Holding Inc., Switz.

SO PCT Int. Appl., 57 pp.

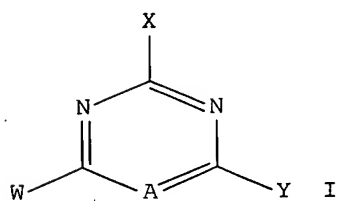
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005105950	A1	20051110	WO 2005-EP51731	20050420 <--
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	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2562416	A1	20051110	CA 2005-2562416	20050420 <--
	EP 1743011	A1	20070117	EP 2005-747379	20050420 <--
	R:				
	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	CN 1950479	A	20070418	CN 2005-80013601	20050420 <--
PRAI	EP 2004-101826	A	20040429		
	WO 2005-EP51731	W	20050420		
OS	MARPAT 143:469728				
GI					

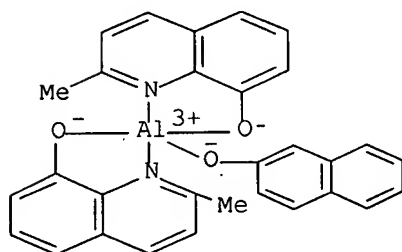


AB A organic compound is described by the general formula I (where A = CH, N; X,W,Y = (independently) aromatic groups described in the text). An electroluminescent devices using the organic compound is also described.

IT 146162-64-3
 RL: DEV (Device component use); USES (Uses)
 (electron transporting layer; triazine or pyrimidine compds. for electroluminescent device)

RN 146162-64-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato-κN1,κO8)(2-naphthalenolato)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Anon	2003	2003		PATENT ABSTRACTS OF	
Anon	2003	2003		PATENT ABSTRACTS OF	
Anon	2003	2003		PATENT ABSTRACTS OF	
Anon	2003	2003		PATENT ABSTRACTS OF	
Canon Inc	2003			JP 2003109763 A	HCAPLUS
Canon Inc	2003			JP 2003109763 A	HCAPLUS
Esteghamatian, M	2001			US 6225467 B1	HCAPLUS
Fink, R	2002			US 6352791 B1	HCAPLUS
Fuji Photo Film Co Ltd	2004			JP 2004095262 A	HCAPLUS
Fuji Photo Film Co Ltd	2004			JP 2004095262 A	HCAPLUS
Hamada	1998			US 5716722 A	HCAPLUS
Hayoz, P	2004			WO 2004077885 A	HCAPLUS
Hu	2000			US 6057048 A	HCAPLUS
Kabushiki Kaisha Toyota	2002			EP 1202608 A	HCAPLUS
Konica Corp	2003			JP 2003045662 A	HCAPLUS
Konica Minolta Holdings	2004			JP 2004031004 A	HCAPLUS
Konica Minolta Holdings	2004			JP 2004031004 A	HCAPLUS
Schaefer, T	2004			WO 2004039786 A	HCAPLUS

L47 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:324479 HCAPLUS Full-text

DN 142:381946

TI Organic electroluminescence device

IN Tsuji, Taishi; Kawami, Shin

PA Pioneer Corporation, Japan

SO PCT Int. Appl., 22 pp.

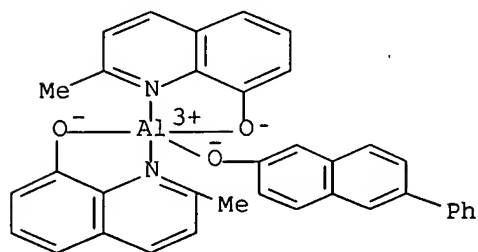
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005034588	A1	20050414	WO 2004-JP14702	20040929 <--
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	TW 252055	B	20060321	TW 2004-93129229	20040927 <--
	EP 1679941	A1	20060712	EP 2004-773626	20040929 <--
	R: DE, FR, GB				
	CN 1864444	A	20061115	CN 2004-80028720	20040929 <--
PRAI	JP 2003-345314	A	20031003		
	WO 2004-JP14702	W	20040929		
AB	An organic electroluminescence device comprising organic functional layers disposed between a pos. electrode and a neg. electrode arranged in pair opposite to each other and composed of three or more thin films including a luminescent layer of organic compound The organic functional layers comprise a first layer and a second layer arranged in pair and each constituted of an organic compound whose glass transition temperature is a first temperature or above and further a third layer interposed between the first layer and the second layer and constituted of an organic compound whose glass transition temperature is below the first temperature				
IT	844435-92-3				
	RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses) (organic electroluminescence device)				
RN	844435-92-3 HCAPLUS				
CN	Aluminum, bis(2-methyl-8-quinolinolato- κ N1, κ O8) (6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)				



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Toyota Motor Corp	2000			JP 2000243574 A	HCAPLUS

L47 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:324478 HCAPLUS Full-text

DN 142:381945

TI Organic electroluminescence device
 IN Tsuji, Taishi
 PA Pioneer Corporation, Japan
 SO PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

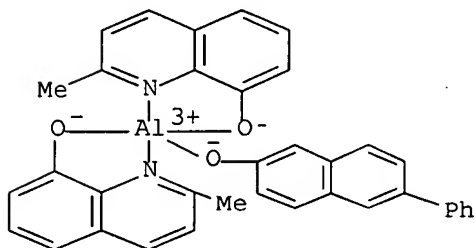
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005034587	A1	20050414	WO 2004-JP14674	20040929 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	TW 255665	B	20060521	TW 2004-93129006	20040924 <--
	EP 1681909	A1	20060719	EP 2004-773611	20040929 <--
	R: DE, FR, GB				
	CN 1864445	A	20061115	CN 2004-80028886	20040929 <--
PRAI	JP 2003-345315	A	20031003		
	WO 2004-JP14674	W	20040929		

AB An organic electroluminescence device comprising organic functional layers disposed between a pos. electrode and a neg. electrode arranged in pair opposite to each other and composed of three or more thin films including a luminescent layer of organic compound. The organic functional layers comprise a first layer and a second layer arranged in pair and each constituted of an organic compound whose glass transition temperature is a first temperature or above and further a third layer interposed between the first layer and the second layer and constituted of an organic compound whose glass transition temperature is below the first temperature. The third layer has a thickness of 30 nm or less.

IT 844435-92-3
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (organic electroluminescence device)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato-κN1,κO8)(6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
President Of Osaka Univ	2001			JP 2001172232 A	HCAPLUS
Toyota Central Research	2003			JP 200392186 A	
Toyota Motor Corp	2000			JP 2000243574 A	HCAPLUS

L47 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2005:141035 HCAPLUS Full-text

DN 142:228466

TI Aluminum chelate complex for organic electroluminescent material

IN Matsuo, Shinji; Miyazaki, Hiroshi; Tsuji, Taishi

PA Nippon Steel Chemical Co., Ltd., Japan; Pioneer Corporation

SO PCT Int. Appl., 59 pp.

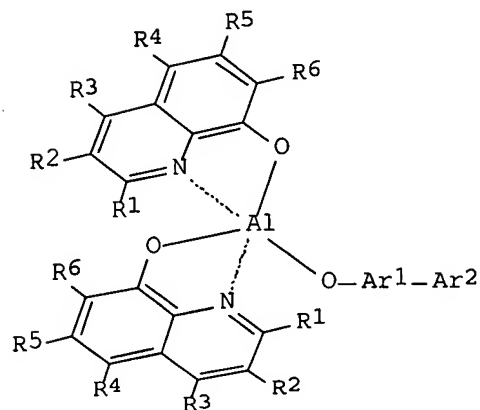
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005014551	A1	20050217	WO 2004-JP11334	20040806 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CN 1832924	A	20060913	CN 2004-80022709	20040806 <--
	US 2007054148	A1	20070308	US 2006-566725	20060713 <--
PRAI	JP 2003-289309	A	20030807		
	WO 2004-JP11334	W	20040806		
OS	MARPAT 142:228466				
GI					



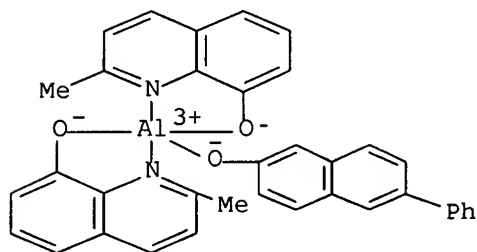
AB A material for organic EL's which is suitable for use as a luminescent-layer material giving an organic EL element less apt to suffer the deterioration in luminance caused by long-term operation and excellent in durability. The aluminum chelate complex for organic EL materials is an aluminum chelate complex which is represented by the general formula I, where Ar2 is a halogen, as an impurity, is 350 wt.ppm or smaller. In the formula, Ar1 represents mono- or bicyclic arylene; Ar2 represents mono- or bicyclic aryl; and R1 to R6 each represents hydrogen or a C1-8 hydrocarbon group. Incidentally, the impurity is the compound in which Ar2 is a halogen.

IT 844435-92-3P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(aluminum chelate complex for organic electroluminescent material)

RN 844435-92-3 HCAPLUS

CN Aluminum, bis(2-methyl-8-quinolinolato- $\kappa N1, \kappa O8$)(6-phenyl-2-naphthalenolato)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Eastman Kodak Co	1993			JP 05-198378 A	HCAPLUS
Eastman Kodak Co	1993			JP 05-214332 A	HCAPLUS
Eastman Kodak Co	1993			CA 2074920 A	HCAPLUS
Eastman Kodak Co	1993			CA 2086192 A	HCAPLUS
Eastman Kodak Co	1993			US 5141671 A	HCAPLUS
Eastman Kodak Co	1993			US 5150006 A	HCAPLUS
Eastman Kodak Co	1993			EP 525904 A1	HCAPLUS
Eastman Kodak Co	1993			EP 534510 A1	HCAPLUS
Eastman Kodak Co	1994			JP 06-172751 A	HCAPLUS
Eastman Kodak Co	1994			US 5484922 A	HCAPLUS
Pioneer Electronic Corp	2003			EP 1308494 A2	HCAPLUS
Pioneer Electronic Corp	2003			US 2003129452 A1	HCAPLUS
Pioneer Electronic Corp	2003			JP 2003142264 A	HCAPLUS

L47 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:740657 HCAPLUS Full-text

DN 141:268185

TI Organic electroluminescent devices

IN Hayoz, Pascal; Schaefer, Thomas; Bardon, Kristina

PA Ciba Specialty Chemicals Holding Inc., Switz.

SO PCT Int. Appl., 38 pp.

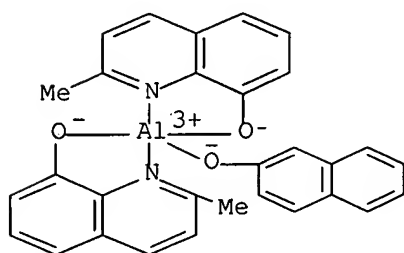
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004077885	A2	20040910	WO 2004-EP50146	20040218 <--
	WO 2004077885	A3	20060706		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	CN 1867646	A	20061122	CN 2004-80005231	20040218 <--
	US 2006135766	A1	20060622	US 2005-546683	20050823 <--
PRAI	EP 2003-100501	A	20030228		
	EP 2003-102360	A	20030730		
	WO 2004-EP50146	W	20040218		
OS	MARPAT 141:268185				
AB	The present invention relates to electroluminescent devices which comprise organic light-emitting layers that contain triazine derivs. The triazine compds. are suitable components of blue-emitting, durable, organo-electroluminescent layers. The electroluminescent devices may be employed for full color display panels, for example, mobile phones, televisions and personal computer screens.				
IT	146162-64-3				
	RL: DEV (Device component use); PRP (Properties); USES (Uses) (organic electroluminescent devices)				
RN	146162-64-3 HCAPLUS				
CN	Aluminum, bis(2-methyl-8-quinolinolato-kN1,kO8) (2-naphthalenolato)- (9CI) (CA INDEX NAME)				



=> => fil reg

FILE 'REGISTRY' ENTERED AT 16:01:19 ON 02 AUG 2007

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DICTIONARY FILE UPDATES: 1 AUG 2007 HIGHEST RN 943895-11-2

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TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

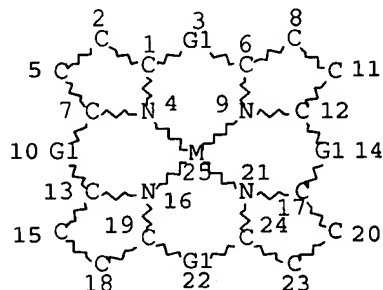
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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d sta que 152

L49 STR



VAR G1=C/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 25

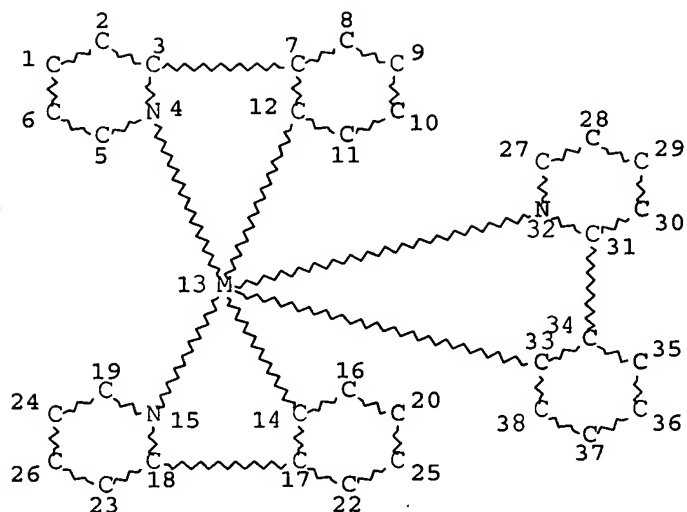
STEREO ATTRIBUTES: NONE

L51 97485 SEA FILE=REGISTRY SSS FUL L49

L52 731 SEA FILE=REGISTRY ABB=ON PLU=ON L51 AND PT/ELS

=> d sta que 156

L53 STR



NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 37

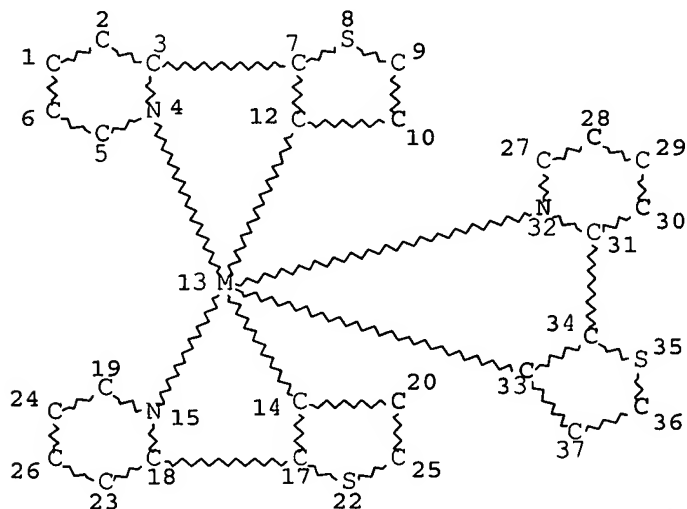
STEREO ATTRIBUTES: NONE

L55 820 SEA FILE=REGISTRY SSS FUL L53

L56 796 SEA FILE=REGISTRY ABB=ON PLU=ON L55 AND IR/ELS

=> d sta que 160

L57 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 34

STEREO ATTRIBUTES: NONE

L59 27 SEA FILE=REGISTRY SSS FUL L57
L60 27 SEA FILE=REGISTRY ABB=ON PLU=ON L59 AND IR/ELS

=> d his

(FILE 'HOME' ENTERED AT 15:22:03 ON 02 AUG 2007)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 15:22:48 ON 02 AUG 2007

L1 2 S US20050233164/PN OR (US2005-509390# OR JP2003-3776 OR JP2002-
E TSUJI/AU
E TSUJI T/AU
L2 265 S E3
L3 22 S E19,E20
E TSUJI NAME/AU
L4 22 S E4
E TAISHI/AU
L5 15 S E12
E TAI SHI/AU
E MIYAZAKI/AU
L6 2 S E3
E MIYAZAKI H/AU
L7 208 S E3,E4
L8 681 S E72
E MIYAZAKI NAME/AU
L9 62 S E4
E HIROSHI/AU
L10 14 S E3
E HIROSHI M/AU
L11 0 S E3
E PIONEER/PA,CS
L12 764 S E44-E48,E61-E84
L13 6 S E85-E91
E PIONEER/CO
E E28+ALL
L14 824 S E2,E3
E E1+ALL
L15 2242 S E2+RT
L16 5053 S PIONEER?/PA,CS,CO
E NIPPON STEEL/CO
E E17+ALL
E E1+ALL
L17 42821 S E2+RT
E NIPPON STEEL/PA,CS
L18 38834 S (NIPPON?(L)STEEL?)/PA,CS
L19 1 S L1 AND L2-L18
SEL RN

FILE 'REGISTRY' ENTERED AT 15:29:40 ON 02 AUG 2007

L20 2 S E1-E2
L21 1 S L20 AND AL/ELS
L22 1 S C36H27ALN2O3/MF
L23 2 S L21,L22

FILE 'HCAPLUS' ENTERED AT 15:31:14 ON 02 AUG 2007

L24 13 S L23
 L25 5 S L24 AND L1-L19
 L26 1 S L24 AND PY<=2002 NOT P/DT
 L27 3 S L24 AND (PD<=20020329 OR PRD<=20020329 OR AD<=20020329) AND P
 L28 4 S L26,L27
 L29 1 S L28 AND L25
 L30 4 S L28,L29
 E ELECTROLUMINESC/CT
 L31 58733 S E4 OR E8+OLD,NT
 L32 58557 S E8-E19
 L33 1 S E28
 E E4+ALL
 E E2+ALL
 L34 12213 S E8+OLD
 E E7+ALL
 L35 270192 S E3+OLD,NT
 E E45+ALL
 L36 65427 S E3+NT
 E E19+ALL
 L37 10390 S E11+NT
 L38 42169 S (C09K011 OR H05B033)/IPC,IC,ICM,ICS
 L39 4 S L30 AND L31-L38
 L40 4 S L30 AND ?LUMINESC?
 L41 4 S L39,L40

FILE 'USPATFULL' ENTERED AT 15:36:06 ON 02 AUG 2007

L42 7 S L23
 L43 3 S L42 AND (PD<=20020329 OR PRD<=20020329 OR AD<=20020329)

FILE 'REGISTRY' ENTERED AT 15:36:42 ON 02 AUG 2007

FILE 'USPATFULL' ENTERED AT 15:36:54 ON 02 AUG 2007

FILE 'HCAPLUS' ENTERED AT 15:37:02 ON 02 AUG 2007

L44 9 S L24 NOT L41
 L45 9 S L44 AND L31-L38
 L46 9 S L44 AND ?LUMINESC?
 L47 9 S L45,L46

FILE 'USPATFULL' ENTERED AT 15:37:59 ON 02 AUG 2007

L48 4 S L42 NOT L43

FILE 'USPATFULL' ENTERED AT 15:38:12 ON 02 AUG 2007

FILE 'HCAPLUS' ENTERED AT 15:38:24 ON 02 AUG 2007

FILE 'REGISTRY' ENTERED AT 15:38:55 ON 02 AUG 2007

L49 STR
 L50 50 S L49
 L51 97485 S L49 FUL
 L52 731 S L51 AND PT/ELS
 SAV TEMP L52 NELSON509A/A
 L53 STR
 L54 17 S L53
 L55 820 S L53 FUL
 L56 796 S L55 AND IR/ELS
 SAV TEMP L56 NELSON509B/A
 L57 STR L53
 L58 2 S L57
 L59 27 S L57 FUL

L60 27 S L59 AND IR/ELS
 SAV TEMP L60 NELSON509C/A
 L61 1554 S L52,L56,L60
 SAV TEMP L61 NELSON509D/A
 L62 24 S L55 NOT L61
 L63 96754 S L51 NOT L61,L62

FILE 'HCAPLUS' ENTERED AT 15:52:03 ON 02 AUG 2007

L64 2163 S L61
 L65 14 S L62
 L66 101373 S L63
 L67 550 S L64,L65 AND PY<=2002 NOT P/DT
 L68 320 S L64,L65 AND (PD<=20020329 OR PRD<=20020329 OR AD<=20020329) A
 L69 870 S L67,L68
 L70 403 S L69 AND L31-L38
 L71 393 S L69 AND ?LUMINESC?
 L72 451 S L70,L71
 E PHOSPHORESCENT/CT
 E E6+ALL
 L73 1672 S E4
 E E5+ALL
 L74 11509 S E4
 E E9+ALL
 L75 1021 S E4
 E E5+ALL
 E E11+ALL
 L76 492 S E4
 E E12+ALL
 E E12+ALL
 L77 27663 S E4,E10
 E E10+ALL
 E E8+ALL
 L78 8263 S E5+OLD
 E LUMINESCENCE/CT
 E E3+ALL
 E E31+ALL
 E E14+ALL
 L79 10041 S E7+OLD,NT
 L80 169 S L72 AND L73-L79
 L81 179 S L72 AND PHOSPHORESC?
 L82 201 S L80,L81
 L83 117 S L82 AND ?ELECTROLUMINES?
 L84 0 S L82 AND ?ELECTRO LUMINES?
 L85 115 S L83 AND DEVICE
 L86 2 S L83 NOT L85
 L87 117 S L85,L86
 L88 58 S L87 AND P/DT
 L89 37 S L88 AND US/PC,PRC,AC
 L90 21 S L88 NOT L89
 L91 7 S L1-L19 AND L87
 L92 61 S L88-L91
 L93 56 S L87 NOT L92
 SAV TEMP L93 NELSON509E/A

FILE 'REGISTRY' ENTERED AT 16:01:19 ON 02 AUG 2007

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 16:01:56 ON 02 AUG 2007

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L92 ANSWER 1 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2006:996328 HCAPLUS Full-text

DN 145:356935

TI Metal complex comprising carbazole ligands with divalent linkers and organic electroluminescent device thereof

IN Kobayashi, Satoshi; Doi, Shuji; Mikami, Satoshi

PA Sumitomo Chemical Company, Limited, Japan

SO Brit. UK Pat. Appl., 93pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2424420	A	20060927	GB 2006-12640	20030324 <--
	GB 2424420	B	20070207		
	GB 2404380	A	20050202	GB 2004-23314	20030324 <--
	GB 2404380	B	20060823		
	JP 2004002344	A	20040108	JP 2003-84772	20030326 <--
	JP 2004002755	A	20040108	JP 2003-84773	20030326 <--
PRAI	JP 2002-86173	A	20020326	<--	
	JP 2002-86174	A	20020326	<--	
	GB 2004-23314	A3	20030324		
	WO 2003-JP3494	W	20030324		

OS CASREACT 145:356935; MARPAT 145:356935

AB A metal complex, and an organic electroluminescent device comprising a layer containing such a complex, (L1)l-M1-(L2)m, and having phosphorescence in a visible region, (M1 = metal having atomic number of 50 or more; L1 = optionally substituted carbazole group connected to the metal via a divalent linker and a ligand which bonds datively and/or covalently with the metal; L2 = ligand which bonds to M1 by one or more of nitrogen atom, oxygen atom, carbon atom, sulfur atom, or phosphorus atom; a halogen atom; or a hydrogen atom; l = 1-3; m = 0-3; and l+m = 2-6). Preferably, the metal is iridium and the ligand is phenylpyridine or 2-thienylpyridine.

CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 35, 73

ST carbazolyl phenylpyridine thienylpyridine divalent linker iridium complex

prepn electroluminescent; cyclometalated carbazole
phenylpyridine thienylpyridine iridium complex prepn OLED

IT Electroluminescent devices
(organic; preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT Phosphorescence
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 1295-35-8, Bis(1,5-cyclooctadiene)nickel 19978-61-1 59831-02-6,
(1,3-Bis(diphenylphosphino)propane)palladium dichloride
RL: CAT (Catalyst use); USES (Uses)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 364732-77-4P 612549-13-0P 612549-16-3P
612823-44-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 364732-79-6P 612823-45-7DP, reaction products with
bis(2-(phenyl)pyridine)mono(2-(bromophenyl)pyridine iridium(III) complex
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 86-28-2, N-Ethylcarbazole 86-74-8, Carbazole 122-52-1, Triethyl phosphite 372-48-5, 2-Fluoropyridine 591-20-8, 3-Bromophenol 1008-89-5, 2-Phenylpyridine 5713-61-1, 2-Thienylmagnesium bromide 7570-45-8, N-Ethyl-3-carbazolecarboxaldehyde 15635-87-7, Tris(acetylacetonato)iridium 35335-16-1, 1,4-Dibromo-2,5-bis(bromomethyl)benzene 198964-46-4, 9,9-Dioctyl-2,7-dibromofluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

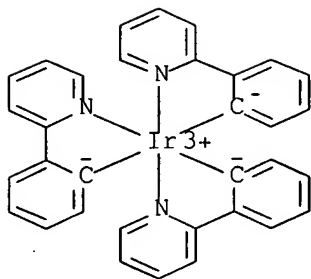
IT 35335-17-2P 57102-97-3P, N-Ethyl-3-bromocarbazole 66107-31-1P
145493-75-0P, 1-Bromo-3-(2-thienyl)benzene 364732-76-3P 494775-71-2P
612549-10-7P 612549-11-8P 612549-12-9P 612549-15-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 366-18-7, 2,2'-Bipyridyl
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

IT 364732-77-4P 612549-13-0P 612549-16-3P
612823-44-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of transition metal complex comprising carbazole ligands with divalent linkers as organic electroluminescent device)

RN 364732-77-4 HCAPLUS

CN Iridium, tris[bromo-2-(2-pyridinyl-kN)phenyl-kC] - (9CI) (CA INDEX NAME)

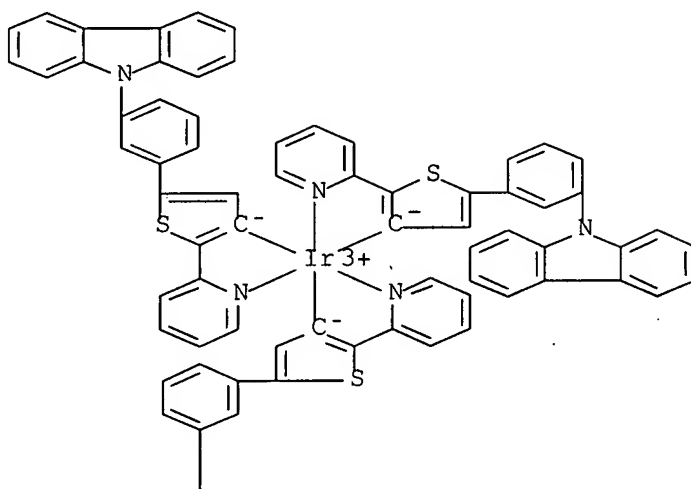


3 (D1-Br)

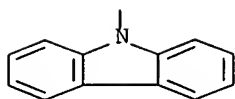
RN 612549-13-0 HCAPLUS

CN Iridium, tris[5-[3-(9H-carbazol-9-yl)phenyl]-2-(2-pyridinyl-κN)-3-thienyl-κC] - (9CI) (CA INDEX NAME)

PAGE 1-A

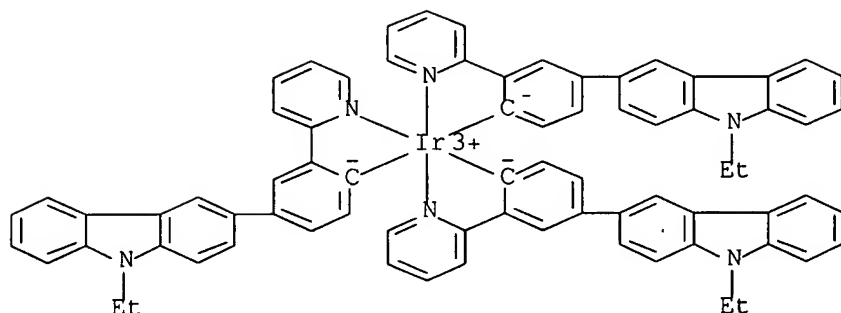


PAGE 2-A



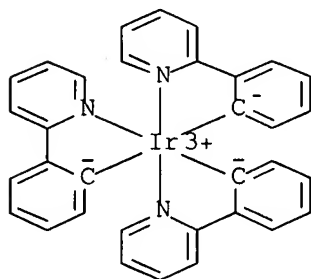
RN 612549-16-3 HCAPLUS

CN Iridium, tris[4-(9-ethyl-9H-carbazol-3-yl)-2-(pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 612823-44-6 HCAPLUS

CN Iridium, bis[bromo-2-(2-pyridinyl-κN)phenyl-κC] [2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)

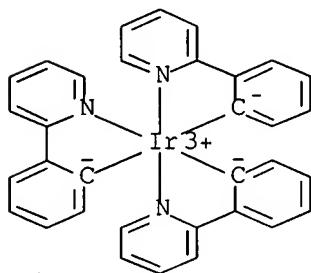


2 (D1-Br)

IT 364732-79-6P 612823-45-7DP, reaction products with
bis(2-(phenyl)pyridine)mono(2-(bromophenyl)pyridine iridium(III) complex
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(preparation of transition metal complex comprising carbazole ligands with
divalent linkers as organic electroluminescent device)

RN 364732-79-6 HCAPLUS

CN Iridium, [bromo-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



D1-Br

RN 612823-45-7 HCAPLUS

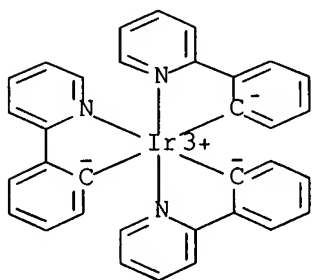
CN Iridium, bis[bromo-2-(2-pyridinyl- κ N)phenyl- κ C] [2-(2-pyridinyl- κ N)phenyl- κ C]-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene, 3,3'-[(2,5-dibromo-1,4-phenylene)di-2,1-ethenediyl]bis[9-ethyl-9H-carbazole] and tris[bromo-2-(2-pyridinyl- κ N)phenyl- κ C]iridium (9CI) (CA INDEX NAME)

CM 1

CRN 612823-44-6

CMF C33 H22 Br2 Ir N3

CCI CCS, IDS

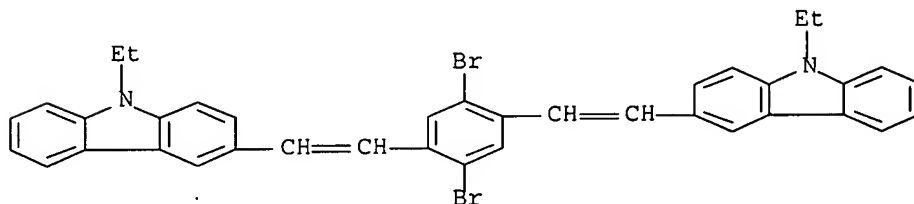


2 (D1-Br)

CM 2

CRN 494775-71-2

CMF C38 H30 Br2 N2

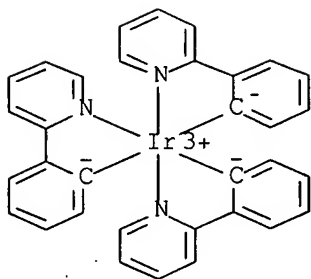


CM 3

CRN 364732-77-4

CMF C33 H21 Br3 Ir N3

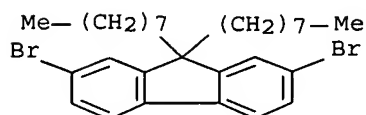
CCI CCS, IDS



3 (D1-Br)

CM 4

CRN 198964-46-4
CMF C29 H40 Br2



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Covion Organic Semicond				WO 02081488 A1	
Isis Innovation Limited				WO 03079736 A1	HCAPLUS

L92 ANSWER 2 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:796823 HCAPLUS Full-text

DN 139:299047

TI Organic electroluminescent device using aluminum
bis(2-methyl-8-quinolinolato)(naphthalenolato) host material

IN Tsuji, Taishi; Miyazaki, Hiroshi

PA Pioneer Corporation, Japan; Nippon Steel Chemical Co.,
Ltd.

SO PCT Int. Appl., 62 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003083009	A1	20031009	WO 2003-JP3776	20030327 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003227239 A1 20031013 AU 2003-227239 20030327 <--
 EP 1493797 A1 20050105 EP 2003-715461 20030327 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

CN 1643109 A 20050720 CN 2003-807394 20030327 <--
 US 2005233164 A1 20051020 US 2005-509390 20050628 <--

PRAI JP 2002-96908 A 20020329 <--
 WO 2003-JP3776 W 20030327

AB The invention refers to an organic electroluminescent device comprising an Al
 bis(2-methyl-8-quinolinolato)(naphthalenolato) complex as a host and a
 phosphorescent guest material.

IC ICM C09K0011-06
 ICS H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)

ST electroluminescent device aluminum quinolinolato
 naphthalenolato phosphorescent material

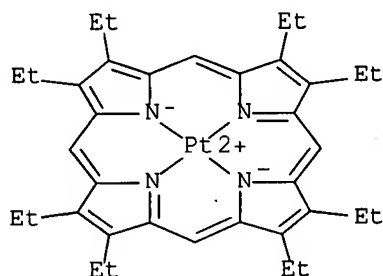
IT Electroluminescent devices
 Phosphorescent substances
 (organic electroluminescent device using aluminum
 bis(2-methyl-8-quinolinolato)(naphthalenolato) as host material).

IT 31248-39-2, Platinum 2,3,7,8,12,13,17,18-octaethyl-21H,23H-
 porphyrin 146162-64-3
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device using aluminum
 bis(2-methyl-8-quinolinolato)(naphthalenolato) as host material)

IT 31248-39-2, Platinum 2,3,7,8,12,13,17,18-octaethyl-21H,23H-
 porphyrin
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device using aluminum
 bis(2-methyl-8-quinolinolato)(naphthalenolato) as host material)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 kN21,kN22,kN23,kN24]-, (SP-4-1)- (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
====+	====+	====+	====+	====+	====+
Tohoku Pioneer Corp	2001			JP 2001326080 A1	HCAPLUS
Toyo Ink Manufacturing	2001			JP 2001271063 A	HCAPLUS

AN 2003:758033 HCAPLUS Full-text
 DN 139:283130
 TI **Phosphorescent dendrimers for use in light-emitting devices**
 IN Lo, Shih-chun; Burn, Paul Leslie; Samuel, Ifor David William; Anthopoulos, Thomas Dimitrios
 PA Isis Innovation Limited, UK; The University Court of the University of St. Andrews
 SO PCT Int. Appl., 60 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003079736	A1	20030925	WO 2003-GB1132	20030318 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003214421	A1	20030929	AU 2003-214421	20030318 <--
	EP 1491074	A1	20041229	EP 2003-709993	20030318 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2005116622	A1	20050602	US 2003-508061	20030318 <--
	JP 2005521210	T	20050714	JP 2003-577583	20030318 <--
	CN 1653857	A	20050810	CN 2003-811376	20030318 <--

PRAI GB 2002-6356 A 20020318 <--
 GB 2002-20091 A 20020829
 GB 2002-20092 A 20020829
 WO 2003-GB1132 W 20030318

AB A light emitting device which comprises at least one layer that contains a **phosphorescent** organometallic dendrimer with a metal cation and ≥ 2 coordinating groups as part of its core and wherein at least 2 of said coordinating groups each have a dendron attached, at least one of which dendrons comprises at least one N atom which forms part of an aromatic ring system or is directly bonded to at least 2 aromatic groups.

IC ICM H05B0033-14
 ICS C09K0011-06; H01L0051-20; C07F0015-00; H01L0051-30
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 29
 ST **phosphorescent organometal dendrimer light emitting device**

IT **Electroluminescent devices**
Phosphorescent substances
 (phosphorescent dendrimers for use in light-emitting devices)

IT Organometallic compounds
 RL: DEV (Device component use); USES (Uses)
 (phosphorescent dendrimers for use in light-emitting devices)

IT Dendritic polymers
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP

(Preparation); USES (Uses)

(phosphorescent dendrimers for use in light-emitting devices)

IT 606932-48-3P 606932-53-0P 606976-70-9P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(phosphorescent dendrimers for use in light-emitting devices)

IT 86-74-8, Carbazole 106-37-6, 1,4-Dibromobenzene 106-41-2, 4-Bromophenol 121-43-7, Trimethylborate 128-08-5, NBS 589-87-7, 1-Bromo-4-iodobenzene 624-28-2, 2,5-Dibromopyridine 4373-60-8 6825-20-3, 3,6-Dibromocarbazole 13569-57-8 18908-66-2, 2-Ethylhexylbromide 61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane 63996-36-1 606932-38-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphorescent dendrimers for use in light-emitting devices)

IT 626-39-1P, 1,3,5-Tribromobenzene 164352-24-3P 452369-36-7P 453530-47-7P 453530-49-9P 453530-50-2P 606932-37-0P 606932-39-2P 606932-41-6P 606932-42-7P 606932-44-9P 606932-45-0P 606932-46-1P 606932-47-2P 606932-49-4P 606932-51-8P 606932-52-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(phosphorescent dendrimers for use in light-emitting devices)

IT 606932-50-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(phosphorescent dendrimers for use in light-emitting devices)

IT 606932-48-3P 606932-53-0P

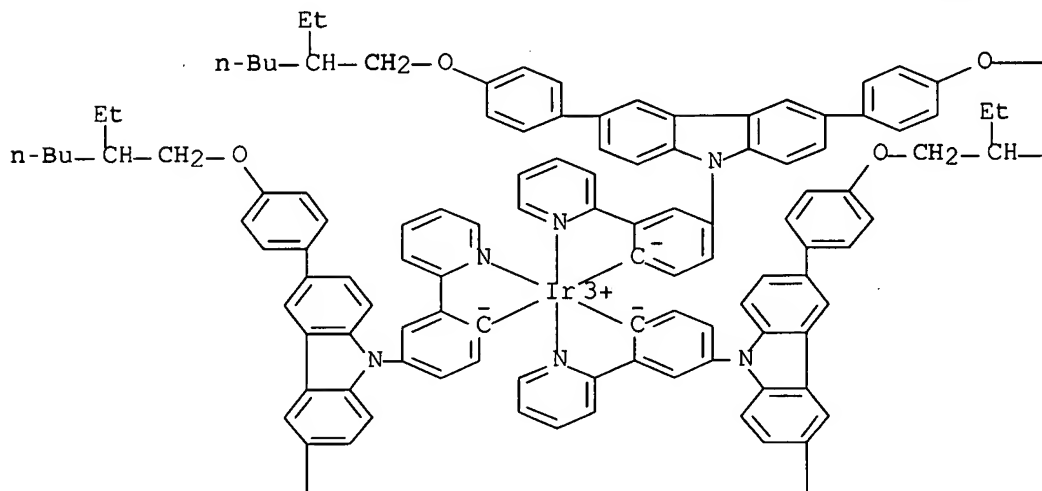
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(phosphorescent dendrimers for use in light-emitting devices)

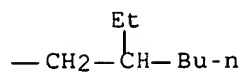
RN 606932-48-3 HCAPLUS

CN Iridium, tris[4-[3,6-bis[4-[(2-ethylhexyl)oxy]phenyl]-9H-carbazol-9-yl]-2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)-(9CI) (CA INDEX NAME)

PAGE 1-A

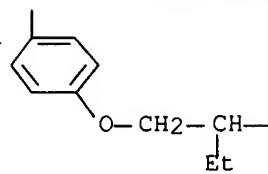
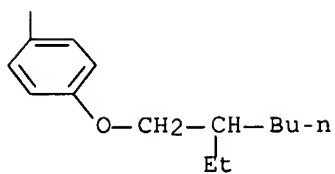


PAGE 1-B



— Bu-n

PAGE 2-A

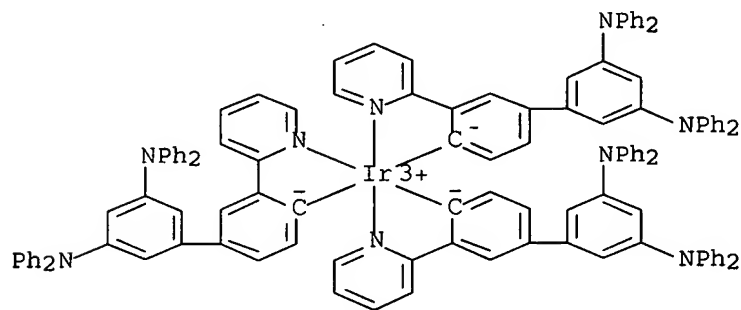


PAGE 2-B

— Bu-n

RN 606932-53-0 HCAPLUS

CN Iridium, tris[3',5'-bis(diphenylamino)-3-(2-pyridinyl-κN)[1,1'-biphenyl]-4-yl-κC]-, (OC-6-22)-(9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Kawa, M	1998	331	259	THIN SOLID FILMS	
Lupton, J	2001	11	287	ADVANCED FUNCTIONAL	HCAPLUS
William, S	1999			WO 9921935 A	HCAPLUS

William, S | 2001 | | WO 0159030 A | HCAPLUS

L92 ANSWER 4 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:719569 HCAPLUS Full-text
 DN 139:252286
 TI Phosphorescent compositions and organic light emitting
 devices containing them
 IN Andrews, Mark David; Look, Kai; Mosley, Alan; Steudel, Annette Regine;
 Male, Nigel; Maxted, Neil
 PA CDT Oxford Limited, UK
 SO PCT Int. Appl., 31 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003074628	A1	20030912	WO 2003-GB857	20030303 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003210004	A1	20030916	AU 2003-210004	20030303 <--
	EP 1481036	A1	20041201	EP 2003-743413	20030303 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2005519429	T	20050630	JP 2003-573084	20030303 <--
	CN 1643108	A	20050720	CN 2003-806972	20030303 <--
	US 2006083943	A1	20060420	US 2005-506914	20050523 <--
PRAI	GB 2002-4989	A	20020304	<--	
	WO 2003-GB857	W	20030303		

AB Compns. of a mixture of (A) a polymerizable compound, which undergoes polymerization on exposure to heat or to actinic radiation, represented by Q[(L)m-X]n, wherein Q is an organic charge transporting fragment, L is a linker group, X is a group capable of undergoing free radical or anionic polymerization on exposure to heat or actinic radiation, m is 0 or 1, and n is an integer having a value of ≥ 2 ; and (B) a phosphorescent material are described, as is an organic light-emitting diode (OLED) device comprising at least 1 emissive layer that was formed by polymerizing such a composition A method for forming an OLED, including depositing a layer containing the polymerizable composition from solution and exposing the layer to heat or actinic radiation to induce polymerization, is also disclosed.

IC ICM C09K0011-06

ICS H05B0033-14; H01L0051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST phosphorescent org light emitting device
 carbazolebiphenyl deriv

IT Electroluminescent devices
 Phosphorescent substances

(polymerizable compound contained in phosphorescent compns. for LED)

IT Polymers, uses

RL: DEV (Device component use); USES (Uses)
 (polymerizable compound contained in phosphorescent compns. for LED)

IT 597570-73-5P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (in synthesis of polymerizable compound contained in phosphorescent compns.)

IT 7726-95-6, Bromine, reactions 87199-16-4, 3-Formyl-phenylboronic acid 597570-70-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in synthesis of polymerizable compound contained in phosphorescent compns.)

IT 597570-69-9P 597570-71-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (in synthesis of polymerizable compound contained in phosphorescent compns.)

IT 597570-72-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (in synthesis of polymerizable compound contained in phosphorescent compns.)

IT 597570-68-8P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (in synthesis of polymerizable compound contained in phosphorescent compns. for LED)

IT 68-12-2, N,N-Dimethylformamide, reactions 86-74-8, Carbazole 92-86-4, 4,4'-Dibromobiphenyl 814-68-6, Acryloyl chloride 10025-87-3, Phosphoric trichloride 16940-66-2, Sodium borohydride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in synthesis of polymerizable compound contained in phosphorescent compns. for LED)

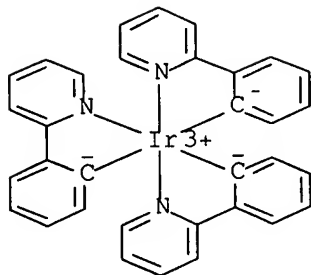
IT 58328-31-7P 597570-65-5P 597570-66-6P 597570-67-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (in synthesis of polymerizable compound contained in phosphorescent compns. for LED)

IT 94928-86-6, fac-Tris((2-phenylpyridine)iridium)
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (polymerizable compound contained in phosphorescent compns. for LED)

IT 94928-86-6, fac-Tris((2-phenylpyridine)iridium)
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (polymerizable compound contained in phosphorescent compns. for LED)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
 (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Anon	2002	2000		PATENT ABSTRACTS OF	
Forrest, S	2001			US 6303238 B1	HCAPLUS
Funhoff, D	1996			US 5518824 A	
Inbasekaran, M	1999			US 5929194 A	HCAPLUS
Kido, J	2001			JP 2001257076 A	HCAPLUS
Kimura, K	2001			US 2001019782 A1	
Kreuder, W	1998			US 5814244 A	HCAPLUS
Robert, T	2001			WO 0149769 A	HCAPLUS
Tdk Corp	1999			EP 0891121 A	HCAPLUS
Univ Southern Californi	2000			WO 0057676 A	HCAPLUS

L92 ANSWER 5 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:715943 HCAPLUS Full-text

DN 139:252276

TI Organic electroluminescent device with
electroconductive polymer layer

IN Arai, Kazumi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 25 pp..

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003257676	A	20030912	JP 2002-370084	20021220 <--
PRAI	JP 2001-393758	A	20011226	<--	

AB The invention refers to an organic electroluminescent device comprising a luminescent layer with at least one compound emitting from a triplet excited state, and a contiguity layer on either the anode or the cathode comprising a conductive polymer, in order to obtain high luminescence efficiency and low operating voltage in the blue region.

IC ICM H05B0033-26

ICS C08G0061-12; H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electroluminescent device triplet excited state
conductive polymer

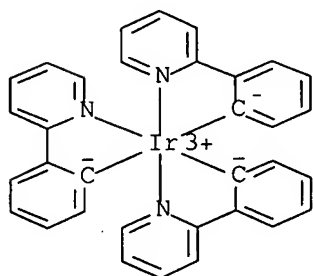
IT Conducting polymers

Electroluminescent devices

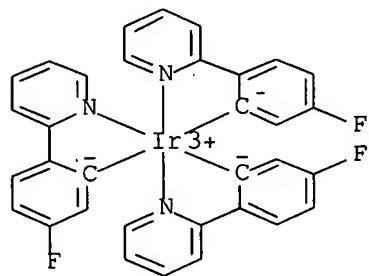
Excited triplet state

(organic electroluminescent device with
electroconductive polymer layer)

IT 24964-91-8 94928-86-6 148044-07-9 155090-83-8, Baytron P
 173394-18-8 370878-69-6
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device with
 electroconductive polymer layer)
 IT 94928-86-6 370878-69-6
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent device with
 electroconductive polymer layer)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



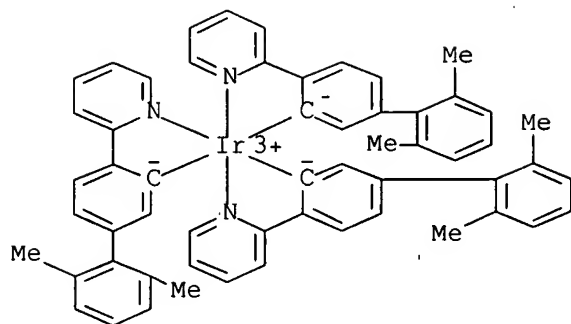
RN 370878-69-6 HCAPLUS
 CN Iridium, tris[5-fluoro-2-(2-pyridinyl-κN)phenyl-κC]-,
 (OC-6-22)- (9CI) (CA INDEX NAME)



L92 ANSWER 6 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:707038 HCAPLUS Full-text
 DN 139:252598
 TI Illuminating compositions for organic electroluminescent
 materials
 IN Sakakibara, Mitsuhiko; Eriyama, Yuichi; Yasuda, Hiroyuki
 PA JSR Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 2003253129 A 20030910 JP 2002-52609 20020228 <--
 PRAI JP 2002-52609 20020228 <--
 OS MARPAT 139:252598
 AB Green color-illuminating compns. contain Ir complexes and pos.-hole-transporting polymers. Thus, a composition contained 5 mg phosphorescent agent prepared from Ir acetylacetonate and 2-[4-(2,6-xylyl)phenyl]pyridine and 1 g 2-phenyl-5-(p-vinylbiphenyl)-1,3,4-oxadiazole-N-vinylcarbazole copolymer.
 IC ICM C08L0101-00
 ICS C08K0005-3432; C08L0039-04; C09K0011-06; H05B0033-14; C07F0015-00
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 78
 ST iridium complex polymer electroluminescent material
 IT Luminescent substances
 (electroluminescent; illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT Phosphorescent substances
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT Coordination compounds
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT Polymers, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (pos.-hole-transporting; illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT 25067-59-8P, Poly(N-vinylcarbazole) 358974-63-7P 596815-60-0P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT 597533-61-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT 597533-58-9P 597533-62-5P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT 10025-83-9, Iridium trichloride 15635-87-7, Iridium acetylacetonate 597533-59-0 597533-60-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 IT 597533-58-9P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (illuminating compns. containing iridium complexes and pos.-hole-transporting polymers for organic electroluminescent materials)
 RN 597533-58-9 HCAPLUS
 CN Iridium, tris[2',6'-dimethyl-4-(2-pyridinyl-kN)[1,1'-biphenyl]-3-yl]-(9CI) (CA INDEX NAME)



L92 ANSWER 7 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:678404 HCAPLUS Full-text

DN 139:221341

TI Light-emissive heteroatomic iridium(III) complexes and electroluminescent devices employing the complexes

IN Hsieh, Bing R.; Thoms, Travis P. S.; Chen, Jian Ping

PA Canon Kabushiki Kaisha, Japan

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003162299	A1	20030828	US 2002-67797	20020208 <--
	US 6989273	B2	20060124		
PRAI	US 2002-67797		20020208	<--	

OS MARPAT 139:221341

AB Emissive iridium(III) complexes suitable for use in an emissive layer of organic electroluminescent devices (OLED), and OLEDs employing the complexes are described, in which the iridium complexes have the structure $[L1Ir(A)L2]_n$, where L1 and L2 are heteroarom. ligands having a C atom covalently bonded to the Ir atom and a N atom complexed to the Ir atom, and where A comprises n heteroarom. ligand groups defined as for L1 and L2, bonding to the resp. n Ir atoms, and n is 2-12. Thus, the preparation and characterization of yellow-emitting phosphorescent iridium(III) complexes is discussed.

IC ICM G01N0033-20

INCL 436084000; 436164000; 436165000; 436166000; 420461000; 422082050; 428690000; 428917000; 257040000; 257098000

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76, 78

ST iridium heteroarom complex phosphorescent material electroluminescent device OLED

IT Transition metal complexes

RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(aromatic nitrogen heterocycle complexes, iridium; light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

IT Luminescent substances

(electroluminescent; light-emissive heteroat. iridium(III))

complexes and electroluminescent devices employing complexes)

IT Electroluminescent devices

(light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

IT Heterocyclic compounds

RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(nitrogen, aromatic, transition metal complexes, iridium; light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

IT Phosphorescent substances

(yellow-emitting; light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

IT 586972-48-7P 586972-49-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

IT 123-54-6, 2,4-Pentanedione, reactions 230-27-3, 7,8-Benzoquinoline 1008-89-5, 2-Phenylpyridine 10025-83-9, Iridium(III) chloride 39327-16-7, Benzoquinoline

RL: RCT (Reactant); RACT (Reactant or reagent)
(light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

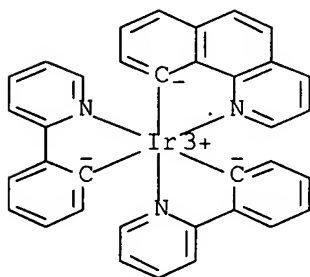
IT 586972-48-7P 586972-49-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(light-emissive heteroat. iridium(III) complexes and electroluminescent devices employing complexes)

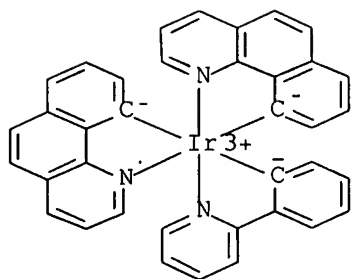
RN 586972-48-7 HCAPLUS

CN Iridium, (benzo[h]quinolin-10-yl-κC,κN)bis[2-(2-pyridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)



RN 586972-49-8 HCAPLUS

CN Iridium, bis(benzo[h]quinolin-10-yl-κC,κN)[2-(2-pyridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Abul-Haj	1998			US 5822137 A	
Adair	1990			US 4954414 A	HCAPLUS
Anon	2001			WO 0139234	HCAPLUS
Anon	2001			WO 0141512	HCAPLUS
Baum	2000			US 6018065 A	HCAPLUS
Burrows	2000			US 6048630 A	
Davidson	1996			US 5585279 A	HCAPLUS
Flynn jr	1974	96	1959	J. Amer. Chem Soc	
Garbuzov	1999			US 5874803 A	HCAPLUS
Grushin	2003			US 6670645 B2	HCAPLUS
Herrmann	1999			US 5981286 A	HCAPLUS
Hosokawa	2003			US 6660410 B2	HCAPLUS
Igarashi	2003			US 6565994 B2	HCAPLUS
Josel	1999			US 5958783 A	HCAPLUS
Kirlin	2000			US 6126996 A	HCAPLUS
Lakowicz	1997			US 5660991 A	HCAPLUS
Marsh	2003			US 6660631 B1	HCAPLUS
Mori	2001			US 6215245 B1	HCAPLUS
Thompson	2000			US 6166489 A	HCAPLUS
VanSlyke	1988			US 4720432 A	HCAPLUS

L92 ANSWER 8 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:675794 HCAPLUS Full-text

DN 139:204805

TI Organic electroluminescent devices

IN Matsuo, Mikiko; Sato, Tetsuya

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003243181	A	20030829	JP 2002-43015	20020220 <--
PRAI	JP 2002-43015		20020220	<--	

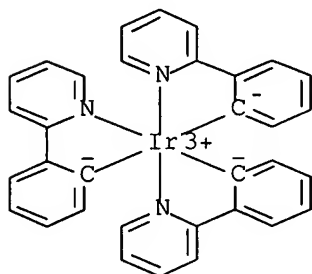
AB The devices comprise: a glass substrate; an ITO 1st electrode; a hole transport layer; a phosphor layer; a hole block layer; an electron transport layer; and a metal 2nd electrode.

IC ICM H05B0033-22

ICS H05B0033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org electroluminescent device structure
 IT Electrodes
 Electron transport
 Glass substrates
 Hole (electron)
 Hole transport
 Phosphorescence
 Phosphors
 Quasiparticles and Excitations
 Reaction
 (structure and properties of organic electroluminescent devices)
 IT 2085-33-8, Tris(8-quinolinolato)aluminum 7429-90-5, Aluminum, uses
 7439-93-2, Lithium, uses 50926-11-9, ITO 58328-31-7 94928-86-6
 167218-46-4
 RL: DEV (Device component use); USES (Uses)
 (structure and properties of organic electroluminescent devices)
 IT 94928-86-6
 RL: DEV (Device component use); USES (Uses)
 (structure and properties of organic electroluminescent devices)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22) - (9CI)
 (CA INDEX NAME)



L92 ANSWER 9 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:656269 HCAPLUS Full-text
 DN 139:204831
 TI Organic electroluminescent devices with light-emitting
 layer containing a phosphorescent compound and a host compound
 containing a boron atom in the molecule, and a display employing the
 organic electroluminescent devices
 IN Matsuura, Mitsunori; Yamada, Taketoshi; Kinoshita, Motoi; Kita, Hiroshi
 PA Konica Corporation, Japan
 SO U.S. Pat. Appl. Publ., 26 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003157366	A1	20030821	US 2002-281572	20021028 <--
	US 6835473	B2	20041228		
	JP 2003234192	A	20030822	JP 2002-334907	20021119 <--

PRAI JP 2001-372601 A 20011206 <--

OS MARPAT 139:204831

AB Organic electroluminescent devices and a display employing the organic electroluminescent devices are described which comprise a light-emitting layer containing a phosphorescent compound and a host compound containing a boron atom in the mol.

IC ICM H05B0033-14

INCL 428690000; 428917000; 313504000; 257102000; 257103000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 22, 74, 76

ST org electroluminescent device display boron host phosphorescent

IT Optical imaging devices
(color, full color display; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT Electroluminescent devices
(displays; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT Luminescent screens
(electroluminescent; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT Phosphorescent substances
(organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT Platinum-group metal complexes
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(osmium, iridium, platinum; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT Electroluminescent devices
(phosphorescent; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 4733-39-5, Bathocuproine
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(electron-transporting and hole-blocking layer; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 2085-33-8, Aluminum tris(8-hydroxyquinolinato)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(electron-transporting layer; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 123847-85-8, α -NPD

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole-transporting layer; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 38186-32-2 213621-16-0 300823-56-7 300823-57-8 301300-11-8
332350-52-4 332350-53-5 492434-53-4 492446-94-3 492446-97-6
492447-00-4 583040-29-3 583040-30-6 583040-31-7 583040-32-8
583040-33-9 583040-34-0 583040-35-1 583040-36-2 583040-37-3
583040-38-4 583040-39-5 583040-40-8 583040-41-9 583040-42-0
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(host in light-emitting layer; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 7440-42-8D, Boron, compds.

RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 94928-86-6 343978-79-0 376367-93-0

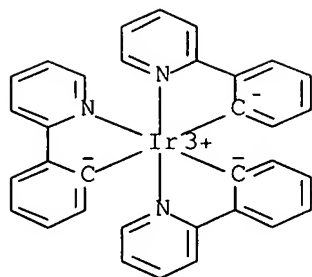
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(phosphorescent dopant; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

IT 94928-86-6

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(phosphorescent dopant; organic electroluminescent devices with light-emitting layer containing phosphorescent compound and host compound containing boron atom in mol., and display employing electroluminescent devices)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Anon	1997			EP 775706	HCAPLUS
Anon	1998			EP WO9836035	
Anon	2000			JP 2000290645	HCAPLUS
Anon	2001			EP 1142895	HCAPLUS
Arai	2001			US 6262433 B1	HCAPLUS
Baldo	2000			US 6097147 A	HCAPLUS
Li	2002			US 6372154 B1	HCAPLUS
Matsuo	2002			US 6391482 B1	HCAPLUS
Sato	2003			US 6534202 B2	HCAPLUS
Tang	1995			US 5409783 A	HCAPLUS
Thompson	2003			US 6579632 B2	HCAPLUS

L92 ANSWER 10 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:644462 HCAPLUS Full-text

DN 139:188402

TI Organic electroluminescent devices/displays and
dendritic complex compounds therefor

IN Tokito, Seiji; Tsuzuki, Toshimitsu; Shirasawa, Nobuhiko; Suzuki, Toshiyasu

PA Japan Broadcasting Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003231692	A	20030819	JP 2002-351662	20021203 <--
PRAI	JP 2001-370628	A	20011204	<--	

AB Compds. including light-emitting central cores (and hole- or electron-transporting branches), and (full-color) large organic LED including the same in emission layers are sep. claimed. The said cores may have transition (or rare-earth) metal complexes. The LED show long life and high luminescent efficiency.

IC ICM C07F0015-00

ICS C09K0011-06; H05B0033-14; H05B0033-22

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 29, 73

ST dendritic iridium complex org electroluminescent display; charge
transporting branch iridium complex LED

IT Rare earth complexes

RL: DEV (Device component use); USES (Uses)
(dendritic, electroluminescent; organic

electroluminescent devices/displays and long-life emission materials therefor)

IT Transition metal complexes
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (dendritic, electroluminescent; organic electroluminescent devices/displays and long-life emission materials therefor)

IT Electroluminescent devices
 (displays; organic electroluminescent devices /displays and long-life emission materials therefor)

IT Luminescent substances
 (electroluminescent, phosphorescent; organic electroluminescent devices/displays and long-life emission materials therefor)

IT Luminescent screens
 (electroluminescent; organic electroluminescent devices/displays and long-life emission materials therefor)

IT Electroluminescent devices
 (organic electroluminescent devices/displays and long-life emission materials therefor)

IT 578715-38-5P 578715-39-6P 578715-41-0P 578715-43-2P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (emission layers; organic electroluminescent devices /displays and long-life emission materials therefor)

IT 578715-44-3P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediates; del borg. electroluminescent devices /displays and long-life emission materials therefor)

IT 578715-46-5P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (intermediates; reorg. electroluminescent devices /displays and long-life emission materials therefor)

IT 578710-59-5P 578710-61-9P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (ligands; organic electroluminescent devices/displays and long-life emission materials therefor)

IT 52913-19-6P 578710-60-8P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (organic electroluminescent devices/displays and long-life emission materials therefor)

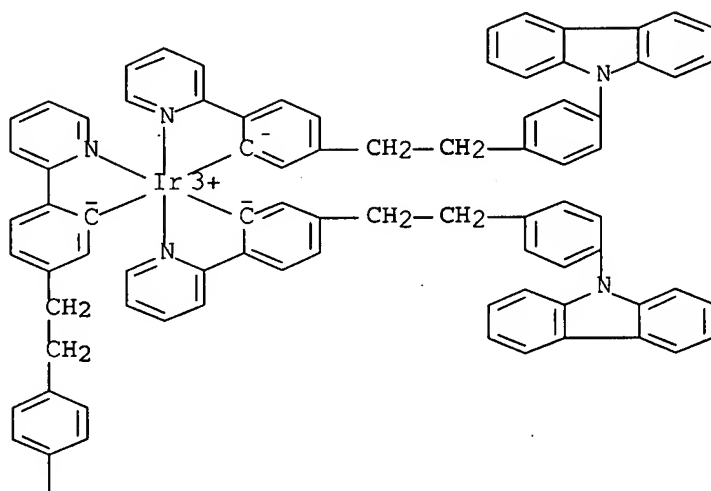
IT 86-74-8, Carbazole 92-66-0, 4-Bromobiphenyl 280-64-8, 9-BBN 1461-22-9, Tributyltin chloride 2039-82-9, 4-Bromostyrene 15702-05-3, Sodium iridium chloride (Na₃IrCl₆) 57102-42-8, 9-(4-Bromophenyl)carbazole 63996-36-1, 2-(4-Bromophenyl)pyridine
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (organic electroluminescent devices/displays and long-life emission materials therefor)

IT 578715-38-5P 578715-41-0P
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
 (emission layers; organic electroluminescent devices /displays and long-life emission materials therefor)

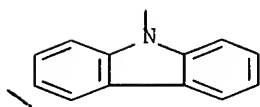
RN 578715-38-5 HCAPLUS
 CN Iridium, tris[5-[2-[4-(9H-carbazol-9-yl)phenyl]ethyl]-2-(2-pyridinyl)-

κN)phenyl- κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)

PAGE 1-A

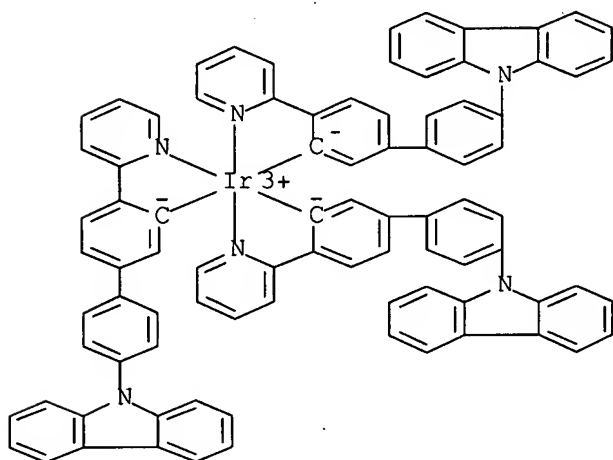


PAGE 2-A



RN 578715-41-0 HCAPLUS

CN Iridium, tris[4'-(9H-carbazol-9-yl)-4-(2-pyridinyl- κN)[1,1'-biphenyl]-3-yl- κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)



L92 ANSWER 11 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:628442 HCAPLUS Full-text
 DN 139:157110
 TI Organic electroluminescent devices
 IN Nagae, Yoshiaki; Murasaki, Takanori; Yamamoto, Ichiro
 PA Toyoda Automatic Loom Works, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003229272	A	20030815	JP 2002-24444	20020131 <--
	JP 3786023	B2	20060614		

PRAI JP 2002-24444 20020131 <--

AB The devices comprise: a glass substrate; an ITO electrode; an α -NPD hole transporting layer; a CBP phosphor doped with an Ir complex salt; and a BALq hole block, an Alq3 electron transporting, a LiF electron injection and an Al electrode layer.

IC ICM H05B0033-14

ICS H05B0033-10; H05B0033-18

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org electroluminescent device

IT Anodes

Cathodes

Dopants

Electrodes

Electroluminescent devices

Electronics

Glass substrates

Hole (electron)

Phosphors

(structure of organic electroluminescent devices)

IT 2085-33-8, Tris(8-quinolinolato)aluminum 7429-90-5, Aluminum, uses
 7789-24-4, Lithium fluoride (LiF), uses 50926-11-9, ITO 58328-31-7
 123847-85-8, α -NPD

RL: DEV (Device component use); USES (Uses)

(structure of organic electroluminescent devices)

IT 94928-86-6, Tris(2-phenylpyridine)iridium 146162-54-1

RL: MOA (Modifier or additive use); USES (Uses)

(structure of organic electroluminescent devices)

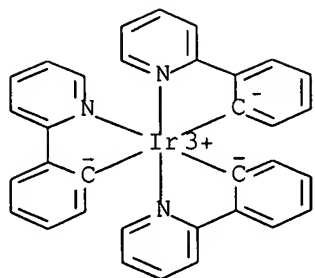
IT 94928-86-6, Tris(2-phenylpyridine)iridium

RL: MOA (Modifier or additive use); USES (Uses)

(structure of organic electroluminescent devices)

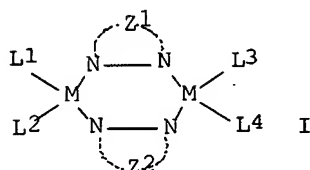
RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 12 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:374061 HCAPLUS Full-text.
 DN 138:376152
 TI **Electroluminescence** elements with high brightness and
luminescence efficiency
 IN Kimura, Keizo
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DT **Patent**
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003142265	A	20030516	JP 2001-339425	20011105 <--
PRAI	JP 2001-339425		20011105	<--	
OS	MARPAT 138:376152				
GI					



AB The element has between a pair of electrode layers organic layers, at least one of which contains **phosphorescent** phosphors and electron transporting materials I (Z1, Z2 = nonmetal atom groups to form N-containing 5-membered ring; L1-4 = H, alkyl, aryl, N-containing aromatic ring; M = metal). The organic layers are deposited by liquid coating as well as vapor deposition.

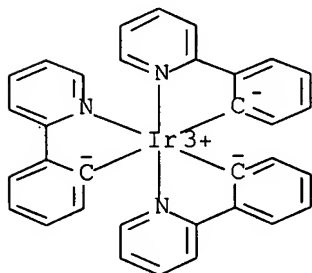
IC ICM H05B0033-14
 ICS C09K0011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 74

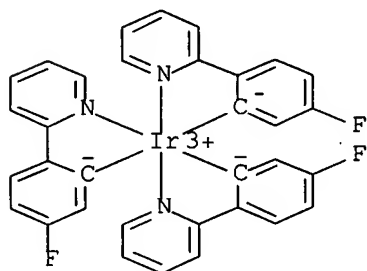
ST **electroluminescence** device brightness pyrazabole
 electron transporter; phosphor coating **luminescence** efficiency
 org EL

IT **Phosphors**
 (electroluminescent; organic electroluminescence
 devices with high brightness and luminescence

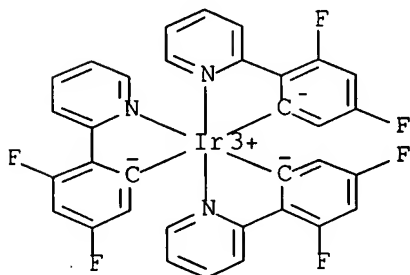
- efficiency manufactured by coating)
- IT Electroluminescent devices
(organic electroluminescence devices with high brightness and luminescence efficiency manufactured by coating)
- IT 14695-69-3 16243-58-6 16998-92-8
RL: DEV (Device component use); USES (Uses)
(electron transporter; organic electroluminescence devices with high brightness and luminescence efficiency manufactured by coating)
- IT 25067-59-8, Poly(N-vinylcarbazole)
RL: DEV (Device component use); USES (Uses)
(organic layers containing, for spin coating; organic electroluminescence devices with high brightness and luminescence efficiency manufactured by coating)
- IT 94928-86-6 370878-69-6 391665-84-2
462648-27-7
RL: DEV (Device component use); USES (Uses)
(phosphor; organic electroluminescence devices with high brightness and luminescence efficiency manufactured by coating)
- IT 94928-86-6 370878-69-6 391665-84-2
RL: DEV (Device component use); USES (Uses)
(phosphor; organic electroluminescence devices with high brightness and luminescence efficiency manufactured by coating)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



- RN 370878-69-6 HCAPLUS
- CN Iridium, tris[5-fluoro-2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)



RN 391665-84-2 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC]-,
(OC-6-22)- (9CI) (CA INDEX NAME)

L92 ANSWER 13 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:373899 HCAPLUS Full-text

DN 138:392822

TI Light emitting polymer composition, and organic
electroluminescence device and production process
thereof

IN Sakakibara, Mitsuhiko; Yasuda, Hiroyuki; Negoro, Yasunori

PA JSR Corporation, Japan

SO Eur. Pat. Appl., 20 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

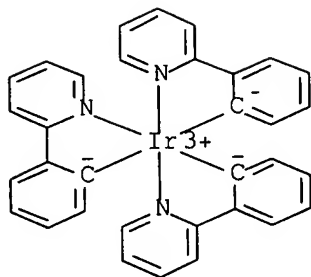
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1311138	A1	20030514	EP 2002-24822	20021107 <--
	EP 1311138	B1	20040929		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003221484	A	20030805	JP 2002-314421	20021029 <--
	JP 3896947	B2	20070322		
	US 2003116788	A1	20030626	US 2002-290370	20021108 <--
	US 6872474	B2	20050329		
PRAI	JP 2001-344253	A	20011109	<--	
	JP 2001-344254	A	20011109	<--	

OS MARPAT 138:392822

AB A light emitting polymer composition is described comprising a polymer component and a phosphorescent agent contained in the polymer component, wherein the polymer component is composed of a hole transporting component formed from 50 to 99 mol% of a hole transporting monomer and an electron transporting component formed from 50 to 1 mol% of an electron transporting monomer. The polymer component is a copolymer composed of 50 to 99 mol% of structural units derived from the hole transporting monomer and 50 to 1 mol% of structural units derived from the electron transporting monomer, or is composed of a hole transporting polymer obtained from the hole transporting monomer and an electron transporting polymer obtained from the electron transporting monomer, and a proportion of the hole transporting polymer to the electron transporting polymer is 50:50 to 99:1 in terms of a molar ratio reduced to the monomers. An organic electroluminescence device is also described comprising a functional organic material layer which functions as a

light emitting layer or hole transport layer and is formed by a light emitting polymer composition comprising the polymer component and the phosphorescent agent contained in the polymer component. A method of fabricating the organic electroluminescence device is also described.

- IC ICM H05B0033-14
ICS C09K0011-06
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29, 38, 76
- ST org electroluminescence phosphorescent iridium complex
light emitting device polymer
- IT Electroluminescent devices
Semiconductor device fabrication
(light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 50926-11-9, Indium tin oxide 126213-51-2, PEDOT
RL: DEV (Device component use); USES (Uses)
(light emitting device; light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 1008-89-5, 2-Phenylpyridine 1484-13-5, N-Vinylcarbazole 19430-49-0
97894-10-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 7440-04-2D, Osmium, complex 7440-06-4D, Platinum, complex
RL: DEV (Device component use); USES (Uses)
(phosphorescent agent; light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 94928-86-6P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(phosphorescent agent; light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 25067-59-8P, N-Vinylcarbazole polymer 292624-58-9P 525561-33-5P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(phosphorescent agent; light emitting polymer composition, and organic electroluminescence device and production process thereof)
- IT 94928-86-6P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(phosphorescent agent; light emitting polymer composition, and organic electroluminescence device and production process thereof)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Igarashi, T	2001			US 2001015432 A1	
Kimura, K	2001			US 2001019782 A1	
Sumitomo Chemical Co	2001			EP 1138746 A	HCAPLUS
Sumitomo Chemical Co	2002			EP 1245659 A	HCAPLUS
Taguchi, T	2001			US 6310231 B1	HCAPLUS

L92 ANSWER 14 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:356106 HCAPLUS Full-text

DN 138:360215

TI Organic electroluminescence element

IN Tsuji, Taishi; Miyaguchi, Satoshi; Wakimoto, Takeo

PA Pioneer Corporation, Japan

SO Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1308494	A2	20030507	EP 2002-257505	20021029 <--
	EP 1308494	A3	20031126		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003142264	A	20030516	JP 2001-334325	20011031 <--
	US 2003129452	A1	20030710	US 2002-282244	20021029 <--
	JP 2007150338	A	20070614	JP 2007-3186	20070111 <--
PRAI	JP 2001-334325	A	20011031	<--	

OS MARPAT 138:360215

AB Organic electroluminescent elements comprising an anode; a hole transport layer; a light-emitting layer made of organic compds.; an electron transport layer; and a cathode are described in which the light-emitting layer comprises an organic host material having an electron transport capability and an organic guest material of phosphorescent material, the ionization potential of the organic host material being higher than that of the hole transport layer by 0.4-0.8 eV.

IC ICM C09K0011-06

ICS H05B0033-14; H01L0051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76

ST org electroluminescent device guest host emitting layer

IT Electroluminescent devices

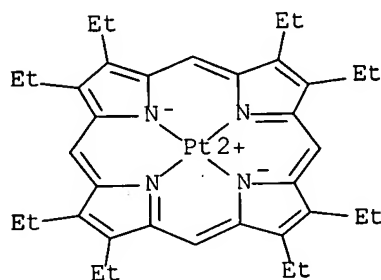
(organic; organic electroluminescent elements with guest-host emitting layers and hole transport layers with lower ionization potentials than the hosts)

IT 123847-85-8 146162-54-1 207514-97-4
 RL: DEV (Device component use); USES (Uses)
 (organic electroluminescent elements with guest-host emitting layers and hole transport layers with lower ionization potentials than the hosts)

IT 31248-39-2
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (organic electroluminescent elements with guest-host emitting layers and hole transport layers with lower ionization potentials than the hosts)

IT 31248-39-2
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (organic electroluminescent elements with guest-host emitting layers and hole transport layers with lower ionization potentials than the hosts)

RN 31248-39-2 HCAPLUS
 CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-kN21,kN22,kN23,kN24]-, (SP-4-1)- (CA INDEX NAME)



L92 ANSWER 15 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:298694 HCAPLUS Full-text
 DN 138:328748
 TI Electrophosphorescent elements with conductive polymers
 IN Heuer, Helmut-Werner; Wehrmann, Rolf
 PA Bayer AG, Germany
 SO Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10150477	A1	20030417	DE 2001-10150477	20011016 <--
	US 2003108769	A1	20030612	US 2002-251597	20020920 <--
	US 6869697	B2	20050322		
	WO 2003034512	A1	20030424	WO 2002-EP11130	20021004 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,				

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,
 CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002340968 A1 20030428 AU 2002-340968 20021004 <--
 EP 1438756 A1 20040721 EP 2002-774685 20021004 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

CN 1572031 A 20050126 CN 2002-820530 20021004 <--
 JP 2005506665 T 20050303 JP 2003-537134 20021004 <--
 TW 242036 B 20051021 TW 2002-91123627 20021015 <--
 PRAI DE 2001-10150477 A 20011016 <--
 WO 2002-EP11130 W 20021004

OS MARPAT 138:328748

AB Layered structures comprising a transparent substrate provided with an elec.
 conductive layer, an electrooptical active layer, and ≥ 1 addnl. substrate
 provided with an elec. conductive layer are described in which ≥ 1 of the ≥ 2
 substrates has a coating formed from a conductive polymer system and the
 electrooptical active layer contains an electrophosphorescent compound
 Electroluminescent devices employing the structures are also described.

IC ICM C09K0011-00
 ICS H01L0033-00; G09F0009-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 Section cross-reference(s): 76

IT Phosphorescent substances
 (electro-; electrophosphorescent elements with conductive polymers)

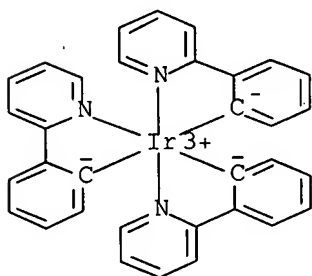
IT Electroluminescent devices
 (electrophosphorescent elements with conductive polymers)

IT 50926-11-9, ITO 94928-86-6 118727-34-7
 RL: DEV (Device component use); USES (Uses)
 (electrophosphorescent elements with conductive polymers)

IT 94928-86-6
 RL: DEV (Device component use); USES (Uses)
 (electrophosphorescent elements with conductive polymers)

RN 94928-86-6 HCAPLUS

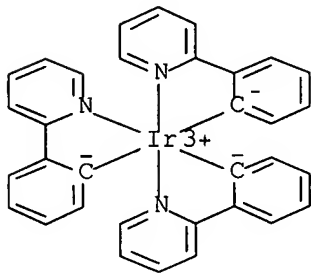
CN Iridium, tris[2-(2-pyridinyl- κ N)phenyl- κ C]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 16 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:279806 HCAPLUS Full-text
 DN 138:278215
 TI Organic electroluminescent devices

IN Tominaga, Takeshi; Makiyama, Akira; Kohama, Toru
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003109767	A	20030411	JP 2002-214875	20020724 <--
PRAI	JP 2001-224361	A	20010725	<--	
OS	MARPAT 138:278215				
AB	The devices comprise: a pair of an anode and a cathode interposing a phosphor layer comprising a triplet organic material and an electron transporting material containing [X]n-Y (X = heterocyclic ring containing N or S; Y = single bond, alkyl, alkylene, cycloalkyl, aryl, heterocyclic, silyl, ether, thioether; n ≥ 2).				
IC	ICM H05B0033-14				
	ICS C09K0011-06; H05B0033-22				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)				
ST	triplet org electroluminescent device				
IT	Anodes Cathodes Color Electric transport properties Electroluminescent devices Electronics Glass substrates Luminescent substances Phosphors Triplet state (luminous element)				
IT	4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 94928-86-6 RL: MOA (Modifier or additive use); USES (Uses) (luminous element)				
IT	94928-86-6 RL: MOA (Modifier or additive use); USES (Uses) (luminous element)				
RN	94928-86-6 HCAPLUS				
CN	Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI) (CA INDEX NAME)				



AN 2003:260072 HCAPLUS Full-text
 DN 138:278133
 TI Organic electroluminescent devices
 IN Mishima, Masayuki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003100448	A	20030404	JP 2001-291392	20010925 <--
PRAI	JP 2001-291392		20010925 <--		

AB The devices comprise: a glass substrate; a H₂O barrier layer comprising a hydrophilic polymer binder containing ≥ 1 H₂O absorber; an ITO electrode; a hole transport, a phosphor, an electron transport and a metal electrode layer, where the H₂O absorber layer comprises MgO, CaO, SrO and/or BaO.

IC ICM H05B0033-04

ICS H05B0033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org electroluminescent device hydrophilic desiccant

IT Absorbents

Absorption

Absorption apparatus

Binders

Electrodes

Electroluminescent devices

Electron transport

Glass substrates

Hole transport

Humidity

Phosphors

(structure and properties of organic electroluminescent devices)

IT Polymers, uses

RL: DEV (Device component use); USES (Uses)

(structure and properties of organic electroluminescent devices)

IT Electrodes

(transparent; structure and properties of organic electroluminescent devices)

IT 1304-28-5, Barium oxide (BaO), uses 1305-78-8, Calcium oxide (CaO), uses 1309-48-4, Magnesium oxide (MgO), uses 1314-11-0, Strontium oxide (SrO), uses 7732-18-5, Water, uses 37271-44-6 50926-11-9, ITO 58328-31-7 65181-78-4, TPD 94928-86-6 123847-85-8, α -NPD 358974-66-0, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]

RL: DEV (Device component use); USES (Uses)

(structure and properties of organic electroluminescent devices)

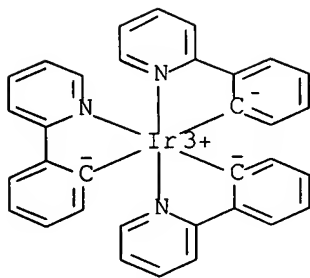
IT 94928-86-6

RL: DEV (Device component use); USES (Uses)

(structure and properties of organic electroluminescent devices)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl- κ N)phenyl- κ C]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 18 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:240286 HCAPLUS Full-text

DN 138:245386

TI Heat-resistant organic electrophosphorescent device showing long service life

IN Fujikawa, Hisayoshi; Ikai, Masamichi; Taga, Yasunori; Nakagawa, Satoshi

PA Toyota Central Research and Development Laboratories, Inc., Japan; Toyoda Automatic Loom Works, Ltd.

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003092186	A	20030328	JP 2001-281147	20010917 <--
PRAI	JP 2001-281147		20010917	<--	

OS MARPAT 138:245386

AB The device comprises a light-emitting layer containing a phosphorescence-emitting substance, and a hole-transporting layer containing a compound having ≥3 triphenylamine groups. The phosphorescence-emitting substance may be a carbazole compound, while the triphenylamine derivs. may have a bulky substituent, e.g., naphthyl, tert-Bu, etc. The device inhibits unnecessary emission of light at the hole-transporting layer.

IC ICM H05B0033-22

ICS C09K0011-06; H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 25

ST org electrophosphorescent device hole transport triphenylamine; carbazole phosphor org electrophosphorescent device

IT Phosphors

(electroluminescent, electrophosphorescent, carbazole compound; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)

IT Electroluminescent devices

(electrophosphorescent, organic; heat-resistant organic

electrophosphorescent

device containing triphenylamine derivative as hole-transporting layer)

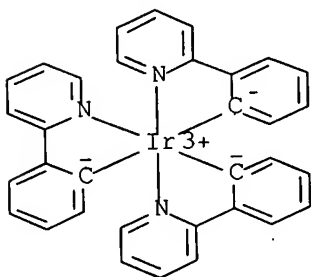
IT Hole transport

(triphenylamine derivs.; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)

IT 94928-86-6

RL: DEV (Device component use); USES (Uses)

- (guest in phosphorescence-emitting layer; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)
- IT 124729-98-2, 4,4',4''-Tris(N-3-methylphenyl-N-phenyl-amino)triphenylamine
167218-46-4 185690-39-5, 4,4'-4'''-Tris[N-(1-naphthyl)-N-phenyl-amino]triphenylamine 292827-46-4
RL: DEV (Device component use); USES (Uses)
(hole-transporting material; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)
- IT 58328-31-7 160780-82-5, 1,3,5-Tris[4-(N-carbazolyl)phenyl]benzene
RL: DEV (Device component use); USES (Uses)
(host in phosphorescence-emitting layer; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)
- IT 94928-86-6
RL: DEV (Device component use); USES (Uses)
(guest in phosphorescence-emitting layer; heat-resistant organic electrophosphorescent device containing triphenylamine derivative as hole-transporting layer)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



L92 ANSWER 19 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:219417 HCAPLUS Full-text
DN 138:245303
TI Properties and manufacture organic electroluminescent devices
IN Taguchi, Toshiki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003086377	A	20030320	JP 2001-272129	20010907 <--
PRAI	JP 2001-272129		20010907 <--		

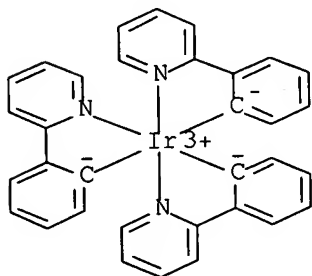
AB The devices comprise: a glass substrate; an ITO electrode; a hole transport, a phosphor, an electron transport and a AgMg electrode, where the laminate comprises ≥1 compound containing ≥2 polymerizable substituents.

IC ICM H05B0033-14

ICS C09K0011-06; H05B0033-10; H05B0033-22

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
 ST org electroluminescent polymerizable substituent property manuf
 IT Electroluminescent devices
 Electron transport
 Glass substrates
 Hole transport
 Phosphors
 (properties and manufacture of organic electroluminescent devices)
 IT 91-64-5, Coumarin 102-76-1 15082-28-7, 1,3,4-Oxadiazole, 2-[1,1'-biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]- 25067-59-8, 9H-Carbazole, 9-ethenyl-, homopolymer 37271-44-6 50926-11-9, ITO 94928-86-6
 RL: DEV (Device component use); USES (Uses)
 (properties and manufacture of organic electroluminescent devices)
 IT 94928-86-6
 RL: DEV (Device component use); USES (Uses)
 (properties and manufacture of organic electroluminescent devices)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 20 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2003:219412 HCAPLUS Full-text
 DN 138:245300
 TI Manufacture and properties of organic electroluminescent devices
 IN Taguchi, Toshiki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003086371	A	20030320	JP 2001-273888	20010910 <--
PRAI	JP 2001-273888		20010910 <--		

AB The devices comprise: a glass substrate; an ITO electrode; a hole transport, a phosphor, an electron transport and a metal electrode, where the laminate comprises ≥ 2 compound containing the substituted radicals forming ≥ 2 covalent bonding by Diels-Alder reactions.
 IC ICM H05B0033-10

ICS C09K0011-06; C09K0011-07; H05B0033-14;
H05B0033-22

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST Diels Alder reaction org electroluminescent device
manuf

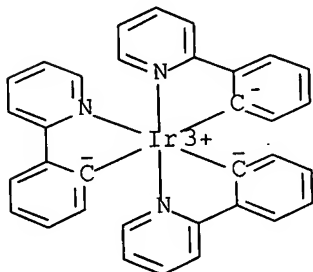
IT Diels-Alder reaction
Electroluminescent devices
Electron transport
Glass substrates
Hole transport
Phosphors
(properties and manufacture of organic electroluminescent devices)

IT 91-64-5, Coumarin 15082-28-7, PBD 25067-59-8, 9H-Carbazole, 9-ethenyl-, homopolymer 37271-44-6 50926-11-9, ITO 58328-31-7 94928-86-6
RL: DEV (Device component use); USES (Uses)
(properties and manufacture of organic electroluminescent devices)

IT 94928-86-6
RL: DEV (Device component use); USES (Uses)
(properties and manufacture of organic electroluminescent devices)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 21 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:200759 HCAPLUS Full-text

DN 138:245292

TI Organic electroluminescent devices

IN Tsuge, Hodaka; Komatsuzaki, Akihiro

PA Honda Motor Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF

DT Patent

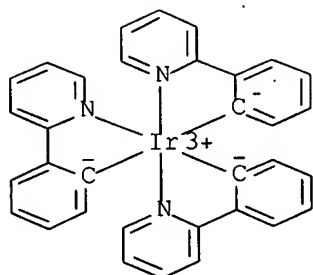
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003077673	A	20030314	JP 2001-297338	20010927 <--
PRAI	JP 2001-185486	A	20010619	<--	
AB	The devices comprise: a glass substrate; an ITO electrode; and a hole transport, a phosphor, an electron transport, and a metal electrode layer,				

where the phosphor layer comprises a dopant and a conductive polymer host poly(9-R,9-R-9H-carbazol-2,7-diyl) and/or poly(9-R-9H-carbazol-3,6-diyl) (R = H, aliphatic or aromatic hydrocarbon, ether, heterocyclic group).

- IC ICM H05B0033-14
- ICS C09K0011-06; H05B0033-10; H05B0033-22;
C07D0213-16; C07D0277-66; C07D0409-14
- CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
- ST org electroluminescent device
- IT Anodes
Cathodes
Doping
Electronics
Phosphorescence
(organic electroluminescent devices)
- IT Polymers, uses
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- IT Aromatic hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(organic electroluminescent devices)
- IT 2085-33-8, Tris(8-quinolinolato)aluminum 4733-39-5 15082-28-7
25067-59-8, 9H-Carbazole, 9-ethenyl-, homopolymer 50926-11-9, ITO
94928-86-6 195456-48-5, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl)
330649-87-1, Poly(9,9-diphenyl-9H-fluorene-2,7-diyl) 483306-63-4
483306-68-9 501355-43-7, Poly(9-phenyl-9H-carbazole-3,6-diyl)
501355-44-8 501355-45-9 501355-46-0 501355-47-1 501355-48-2,
Poly(9,9-dicarboxy-9H-fluorene-2,7-diyl) 501355-49-3,
Poly(9-propoxy-9H-carbazole-3,6-diyl) 501355-50-6, Poly(9-butoxy-9H-
carbazole-3,6-diyl) 501355-51-7 501355-52-8 501355-53-9
501355-54-0 501355-55-1, Poly(9-carboxy-9H-carbazole-3,6-diyl)
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- IT 56-23-5, Tetrachloromethane, reactions 75-05-8, Acetonitrile, reactions
75-52-5, Nitromethane, reactions 79-24-3, Nitroethane 90-11-9,
 α -Bromonaphthalene 100-41-4, Ethylbenzene, reactions 108-38-3,
m-Xylene, reactions 108-87-2, Methylcyclohexane 109-66-0, n-Pentane,
reactions 110-54-3, Hexane, reactions 110-82-7, Cyclohexane, reactions
111-65-9, n-Octane, reactions 124-18-5, n-Decane 142-82-5, Heptane,
reactions 540-54-5, 1-Chloropropane 872-05-9, 1-Decene
RL: RCT (Reactant); RACT (Reactant or reagent)
(organic electroluminescent devices)
- IT 94928-86-6
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



L92 ANSWER 22 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:194609 HCAPLUS Full-text

DN 138:245322

TI Organic electroluminescent devices, macromolecules

binding metal complexes therefor, and preparation thereof

IN Igawa, Satoshi; Takiguchi, Takao; Kamatani, Atsushi; Okada, Shinjiro;
Tsuboyama, Akira

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003073479	A	20030312	JP 2001-267110	20010904 <--
	WO 2003022908	A1	20030320	WO 2002-JP8804	20020830 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002330461	A1	20030324	AU 2002-330461	20020830 <--
	EP 1426399	A1	20040609	EP 2002-765384	20020830 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	CN 1538986	A	20041020	CN 2002-805975	20020830 <--
	US 2003186080	A1	20031002	US 2002-258241	20021022 <--
	US 7238435	B2	20070703		
	US 2005196639	A1	20050908	US 2005-124232	20050509 <--
PRAI	JP 2001-267110	A	20010904	<--	
	JP 2001-267233	A	20010904	<--	
	WO 2002-JP8804	W	20020830		
	US 2002-258241	A3	20021022	<--	

AB The devices contain macromols. having (conjugated skeletons and) side chains binding to Ir complexes which contain Ir-C or -O bonds, in emission layers and exhibit high luminescent efficiency and minimized time deterioration. Also claimed are phosphorescent macromols. binding M-O or -C bond-containing complexes (M = Pt, Rh, Ru, Os, Au, Pd, Cu, or Co) at side chains. Preparation of the macromols. by reaction of conjugated polymers with the above metal complexes is also claimed.

IC ICM C08G0085-00
ICS C09K0011-06; H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38

ST electroluminescent device metal complex bound
phosphorescent macromol; phenylpyridineiridium branched
dialkoxyfluorene polymer electrophosphorescent LED

IT Phosphorescent substances
(electro; high-efficiency organic LED containing Ir complex-branched
alkoxyfluorene polymers in emission layers)

IT Luminescent substances
(electroluminescent; high-efficiency organic LED containing Ir
complex-branched alkoxyfluorene polymers in emission layers)

IT Electroluminescent devices
(organic; high-efficiency organic LED containing Ir complex-branched
alkoxyfluorene polymers in emission layers)

IT 501330-38-7P 501330-40-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP
(Properties); PREP (Preparation); USES (Uses)
(emission layers; high-efficiency organic LED containing Ir complex-
branched
alkoxyfluorene polymers in emission layers)

IT 501330-36-5P 501330-37-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(high-efficiency organic LED containing Ir complex-branched alkoxyfluorene
polymers in emission layers)

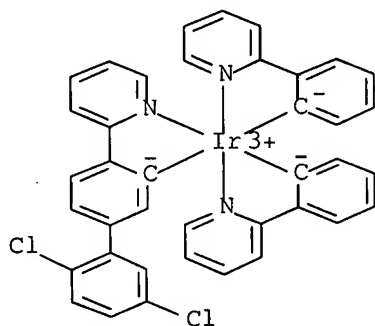
IT 501330-38-7P 501330-40-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP
(Properties); PREP (Preparation); USES (Uses)
(emission layers; high-efficiency organic LED containing Ir complex-
branched
alkoxyfluorene polymers in emission layers)

RN 501330-38-7 HCAPLUS

CN Iridium, [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-
κC]bis[2-(2-pyridinyl-κN)phenyl-κC]-, polymer with
2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-
dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

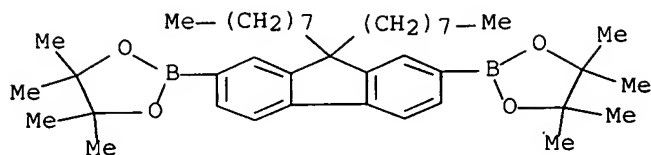
CRN 501330-37-6
CMF C39 H26 Cl2 Ir N3
CCI CCS



CM 2

CRN 196207-58-6

CMF C41 H64 B2 O4



RN 501330-40-1 HCAPLUS

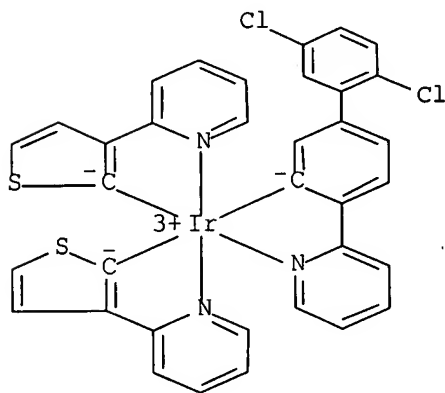
CN Iridium, [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]-, polymer with [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[3-(2-pyridinyl-κN)-2-thienyl-κC]iridium and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 501330-39-8

CMF C35 H22 Cl2 Ir N3 S2

CCI CCS

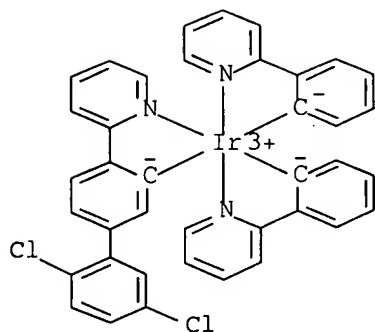


CM 2

CRN 501330-37-6

CMF C39 H26 Cl2 Ir N3

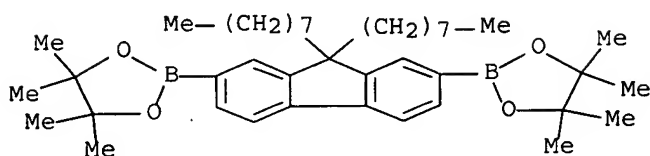
CCI CCS



CM 3

CRN 196207-58-6

CMF C41 H64 B2 O4



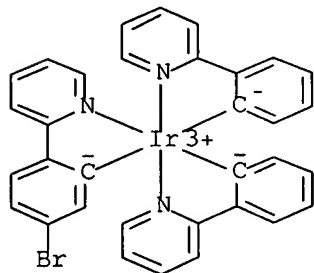
IT 501330-36-5P 501330-37-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(high-efficiency organic LED containing Ir complex-branched alkoxyfluorene polymers in emission layers)

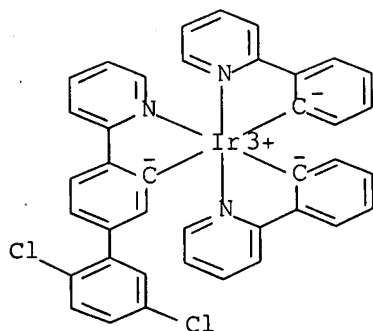
RN 501330-36-5 HCAPLUS

CN Iridium, [5-bromo-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 501330-37-6 HCAPLUS

CN Iridium, [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



L92 ANSWER 23 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:173670 HCAPLUS Full-text

DN 138:229001

TI Phosphor light-emitting compound, phosphor light-emitting composition, and organic light emitting element

IN Tokito, Shizuo; Suzuki, Mitsunori; Tanaka, Isao; Inoue, Youji; Shirane, Koro; Takeuchi, Masataka; Ito, Naoko

PA Nippon Hosho Kyokai, Japan; Showa Denko K.K.

SO PCT Int. Appl., 71 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003018653	A1	20030306	WO 2002-JP8839	20020830 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2003342325	A	20031203	JP 2002-112352	20020415 <--
	AU 2002330469	A1	20030310	AU 2002-330469	20020830 <--
	US 2003091862	A1	20030515	US 2002-231060	20020830 <--
	US 7250226	B2	20070731		
	EP 1424350	A1	20040602	EP 2002-765394	20020830 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	CN 1547597	A	20041117	CN 2002-816692	20020830 <--
	JP 2007059939	A	20070308	JP 2006-295017	20061030 <--
PRAI	JP 2001-265033	A	20010831	<--	
	JP 2002-79129	A	20020320	<--	
	JP 2002-112352	A	20020415		
	US 2002-392628P	P	20020701	<--	
	WO 2002-JP8839	W	20020830		

AB The invention refers to a neutral organic polymer phosphor light-emitting compound used in an organic light emitting device, stable, with very high efficiency phosphorescence, comprising a phosphorescence light-emitting

repeting unit for emitting phosphorescence and a carrier transport repeating unit.

IC ICM C08F0226-02
ICS C08G0061-12; C09K0011-06; H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 35, 38

ST electroluminescent device carrier transport
phosphorescence polymer

IT Electroluminescent devices
Phosphorescence
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

IT Monomers
RL: DEV (Device component use); USES (Uses)
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

IT Electric current carriers
(transport; phosphorescent electroluminescent
polymer, phosphorescent light-emitting composite and organic
electroluminescent device)

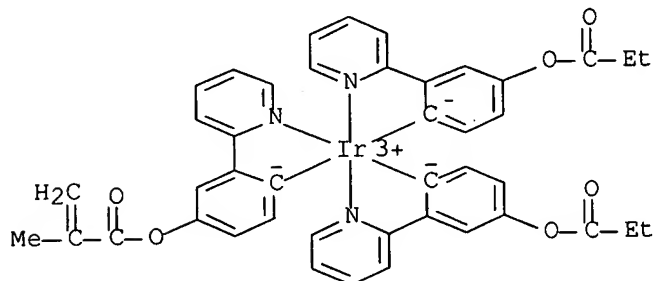
IT 481694-49-9DP, reaction products with carbazoles
481694-52-4DP, reaction products with carbazoles 481694-83-1DP,
reaction products with carbazole 481694-90-0DP, reaction products with
carbazole
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

IT 109-04-6, 2-Bromopyridine 348-57-2, 1-Bromo-2,4-difluorobenzene
874-24-8, 3-Hydroxy picolinic acid 920-46-7, Methacrylic acid chloride
1592-20-7, 4-Vinylbenzylchloride 2398-37-0, 3-Bromoanisole 7439-95-4,
Magnesium, reactions 15635-87-7, Iridium tris(acetylacetonate)
16941-25-6 17272-66-1, Acetyl acetate, reactions 30674-80-7
39977-41-8, 5-Hydroxymethyl picolinic acid 52642-16-7, Phenyl pyridine
92220-65-0 343978-72-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

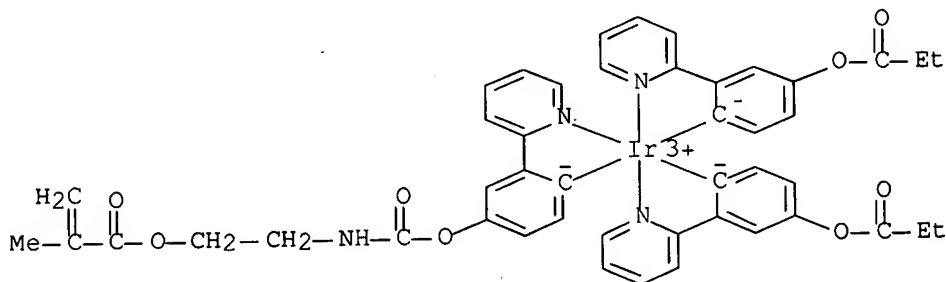
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132958-93-1P 391604-55-0P 391611-77-1P 481694-46-6P
481694-47-7P 481694-48-8P 481694-51-3P
481694-52-4P 481694-72-8P 481694-83-1P 481694-85-3P
481694-86-4P 481694-90-0P 481694-96-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

IT 481694-49-9DP, reaction products with carbazoles
481694-52-4DP, reaction products with carbazoles
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(phosphorescent electroluminescent polymer,
phosphorescent light-emitting composite and organic
electroluminescent device)

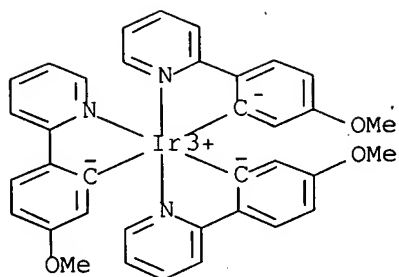
RN 481694-49-9 HCAPLUS
 CN Iridium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl- κ N)phenyl- κ C]bis[4-(1-oxopropoxy)-2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



RN 481694-52-4 HCAPLUS
 CN Iridium, [4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-2-(2-pyridinyl- κ N)phenyl- κ C]bis[4-(1-oxopropoxy)-2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)

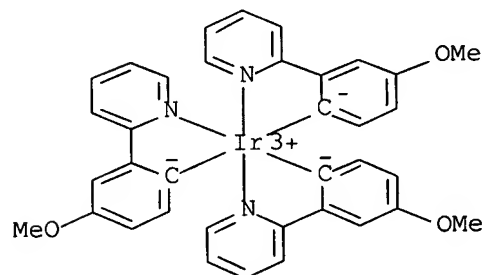


IT 132958-93-1P 481694-46-6P 481694-47-7P
 481694-48-8P 481694-51-3P 481694-52-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (phosphorescent electroluminescent polymer,
 phosphorescent light-emitting composite and organic
 electroluminescent device)
 RN 132958-93-1 HCAPLUS
 CN Iridium, tris[5-methoxy-2-(2-pyridinyl- κ N)phenyl- κ C] -, (OC-6-22) - (9CI) (CA INDEX NAME)



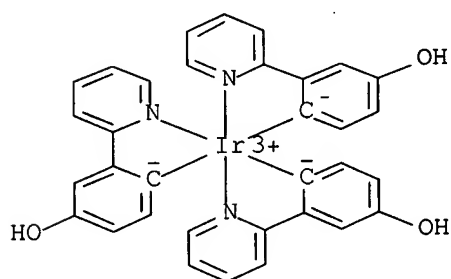
RN 481694-46-6 HCAPLUS

CN Iridium, tris[4-methoxy-2-(2-pyridinyl-κN)phenyl-κC] - (9CI)
(CA INDEX NAME)



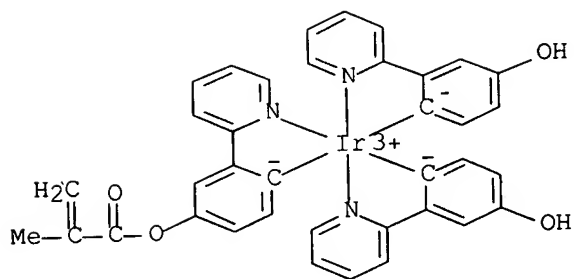
RN 481694-47-7 HCAPLUS

CN Iridium, tris[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] - (9CI)
(CA INDEX NAME)



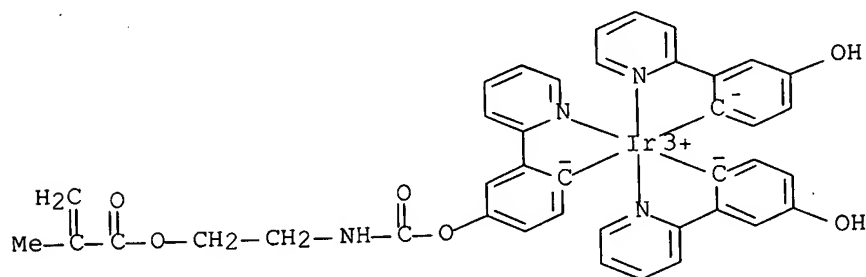
RN 481694-48-8 HCAPLUS

CN Iridium, bis[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



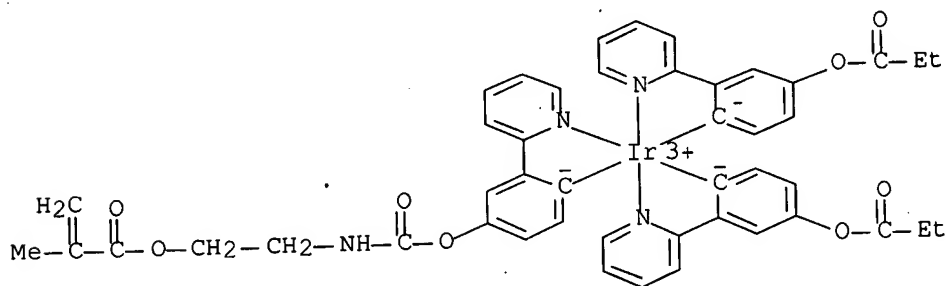
RN 481694-51-3 HCAPLUS

CN Iridium, bis[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC][4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 481694-52-4 HCAPLUS

CN Iridium, [4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-2-(2-pyridinyl-κN)phenyl-κC]bis[4-(1-oxopropoxy)-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Bayer Ag	1994			JP 06-256429 A	HCAPLUS
Bayer Ag	1994			DE 4305959 A1	HCAPLUS
Bayer Ag	1994			US 542021 A	
Bayer Ag	1994			EP 612772 A1	HCAPLUS
Bayer Ag	1996			JP 08-269138 A	HCAPLUS

Bayer Ag	1996		DE 19511484 A1	HCAPLUS
Bayer Ag	1996		EP 735055 A2	HCAPLUS
Bayer Ag	1998		JP 10-101738 A	HCAPLUS
Bayer Ag	1998		DE 19632949 A1	HCAPLUS
Bayer Ag	1998		US 6114463 A	HCAPLUS
Bayer Ag	1998		EP 825207 A2	HCAPLUS
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Chisso Corp	1996		JP 08-48726 A	HCAPLUS
Kanju Institute Of Scie	2002		JP 2002293830 A	HCAPLUS
Nippon Oil Co Ltd	1993		JP 04-154833 A	HCAPLUS
Nippon Oil Co Ltd	1993		FR 2668154 A1	HCAPLUS
Nippon Oil Co Ltd	1993		US 5272238 A	HCAPLUS
Thomson-Csf	1998		JP 10-195131 A	HCAPLUS
Thomson-Csf	1998		EP 850960 A1	HCAPLUS
Toyota Central Research	1998		JP 10-1665 A	HCAPLUS
Toyota Central Research	2001		JP 2001151868 A	HCAPLUS

L92 ANSWER 24 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:58564 HCAPLUS Full-text

DN 138:114821

TI Organic light-emitting elements which can employ non-volatile or insoluble materials and light-emitting devices using the elements

IN Seo, Satoshi; Murakami, Masakazu; Yamazaki, Shunpei

PA Semiconductor Energy Laboratory Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 36 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003015960	A1	20030123	US 2002-158233	20020531 <--
	US 7199515	B2	20070403		
	JP 2003059666	A	20030228	JP 2002-160435	20020531 <--
	US 2007159079	A1	20070712	US 2007-716004	20070309 <--
PRAI	JP 2001-167508	A	20010601	<--	
	JP 2001-167662	A	20010604	<--	
	US 2002-158233	A3	20020531	<--	

AB Organic light-emitting elements are described which comprise an organic compound layer sandwiched between an anode and a cathode, the organic compound layer comprising a mixed layer having a plurality of organic compds. serving as a host material and a guest material, where ≥ 1 of the organic compds. that serve as the host material forms a uniform amorphous film, and where the guest material forms an aggregation having a diameter ≤ 1 than the thickness of the mixed layer. Light-emitting devices are described having a light-emitting element comprising an anode; a cathode, and an organic compound layer placed between the anode and the cathode, the organic compound layer containing plural kinds of organic compds., where the organic compound layer comprises a plurality of organic compds. that form a uniform amorphous film and ≥ 1 of organic compds. that are scattered in the amorphous film in the form of granule having a diameter < the thickness of the organic compound layer.

IC ICM H05B0033-00

INCL 313504000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76

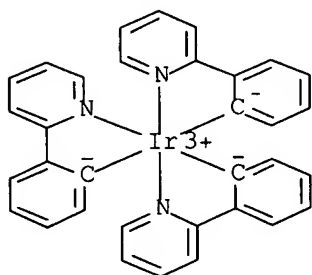
ST org light emitting element device granule aggregate material

IT Electroluminescent devices

(displays; organic light-emitting elements which can employ

- non-volatile or insol. materials and light-emitting devices using elements)
- IT Luminescent screens
(electroluminescent; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT Fluorescent substances
Phosphorescent substances
(granules or guest material forming aggregates; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT Electric appliances
Electroluminescent devices
(organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 7440-21-3, Silicon, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(crystalline film; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 7631-86-9, Silica, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(gate insulating film; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 50851-57-5, Poly (styrenesulfonic acid) 126213-51-2, Poly(ethylene dioxythiophene)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole injection layer containing; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 147-14-8, Copper phthalocyanine
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole injection layer; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 15082-28-7, 2-(4-Biphenyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole
25067-59-8, Poly(N-vinylcarbazole)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(host mixture containing; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 94928-86-6, Tris(2-phenylpyridine) iridium
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(insol. guest material; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)
- IT 12033-89-5, Silicon nitride, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(protective film; organic light-emitting elements which can employ non-volatile or insol. materials and light-emitting devices using elements)

IT 94928-86-6, Tris(2-phenylpyridine) iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP
 (Physical, engineering or chemical process); PYP (Physical process); PROC
 (Process); USES (Uses)
 (insol. guest material; organic light-emitting elements which can employ
 non-volatile or insol. materials and light-emitting devices
 using elements)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



RETABLE

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Tang, C	1987	51	913	Appl. Phys. Lett.	HCAPLUS
Tokito	1998		98	Monthly Display Spec	
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L92 ANSWER 25 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:6290 HCAPLUS Full-text

DN 138:80451

TI Light emitting material and organic light-emitting device

IN Takeuchi, Masataka; Naijo, Shuichi; Ito, Naoko; Shirane, Koro; Igarashi, Takeshi; Takahashi, Yoshiaki; Kamachi, Motoaki

PA Showa Denko K.K., Japan

SO PCT Int. Appl., 318 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT,				
	LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT,				
	RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,				
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	RW:				
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	KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,				
	GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,				
	GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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	JP 2003113246	A	20030418	JP 2001-306282	20011002 <--
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	JP 2003171391	A	20030620	JP 2001-369529	20011204 <--
	JP 2003077675	A	20030314	JP 2002-80456	20020322 <--
	JP 2003073666	A	20030312	JP 2002-90590	20020328 <--
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	IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
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	JP 2007113008	A	20070510	JP 2006-290647	20061026 <--
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	JP 2007154202	A	20070621	JP 2006-337705	20061215 <--
PRAI	JP 2001-186120	A	20010620	<--	
	JP 2001-188183	A	20010621	<--	

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JP 2001-241647	A	20010809	<--
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JP 2002-80456	A	20020322	<--
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AB The invention refers to a polymer light emitting material, wherein the material has a light emitting mechanism based on a transition from an excited triplet state to the ground state or transition through an excited triplet state to the ground state, and the material comprises a nonionic light emitting part which constitutes a part of the polymer or is bound to the polymer. The polymer light emitting material exhibits high light emission efficiency >5 %, which is the limit of external quantum efficiency of fluorescence and can be designed so as to have a large area and hence are suitable for mass production of organic light emitting devices.

IC ICM H01L0051-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 29, 74, 76, 78

ST electroluminescent device phosphorescence
phosphor iridium phenyl pyridine polymer

IT Optical imaging devices
(flat panel; light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT Electroluminescent devices
Excited triplet state
Phosphorescent substances
Phosphors
(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT Acrylic polymers, uses
RL: DEV (Device component use); USES (Uses)
(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT 11120-54-0, Oxadiazole 15082-28-7, PBD 19473-91-7 25067-59-8,
Poly(N-vinyl carbazole) 190785-27-4 481694-57-9
481694-58-0 481694-59-1 481694-60-4

RL: DEV (Device component use); USES (Uses)
(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT 15635-87-7DP, reaction products with hexylphenylpyridine
481694-50-2P 481694-52-4P 481694-53-5P
481694-54-6P 481694-56-8P 481694-68-2P
481694-70-6P 481694-72-8P 481694-73-9P 481694-74-0P
481694-91-1P 481694-92-2P 481694-93-3P 481694-94-4P 481694-95-5P
481695-02-7P 481695-03-8P 481695-04-9P 481695-06-1P 481696-03-1P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)

(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT 79-03-8, Propionyl chloride 109-04-6, 2-Bromopyridine 123-54-6, Acetylacetone, reactions 348-57-2, 1-Bromo-2,4-difluorobenzene 814-68-6, Acryloyl chloride 868-77-9, 2-Hydroxyethyl methacrylate 874-24-8, 3-Hydroxypicolinic acid 920-46-7, Methacryloyl chloride 1008-89-5, 2-Phenyl pyridine 1592-20-7, 4-Vinylbenzyl chloride 4373-58-4 5957-90-4, 2-(4-Methoxy)phenylpyridine 15451-07-7 15635-87-7 28605-84-7, Pyridine dicarboxylic acid 30674-80-7, 2-Methacryloyloxyethyl isocyanate 39977-41-8, 5-(Hydroxymethyl)picolinic acid 52046-71-6 91273-98-2, 8-Nonene-2,4-dione 98061-22-4 113195-57-6, 4-Benzyloxybenzyl iodide 123334-23-6 343978-72-3 481667-84-9 481667-94-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

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RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

IT 481694-57-9 481694-58-0 481694-59-1 481694-60-4

RL: DEV (Device component use); USES (Uses)

(light emitting material and organic light-emitting device using phosphorescent iridium Ph pyridine polymer derivative)

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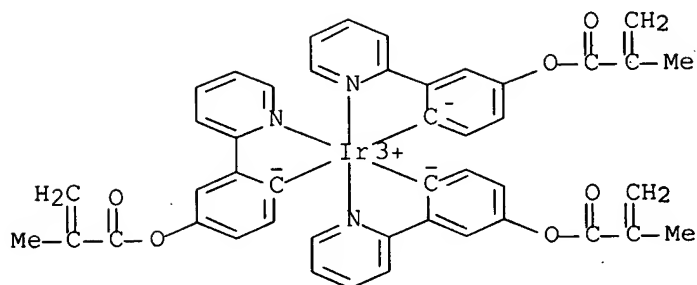
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CRN 481694-54-6

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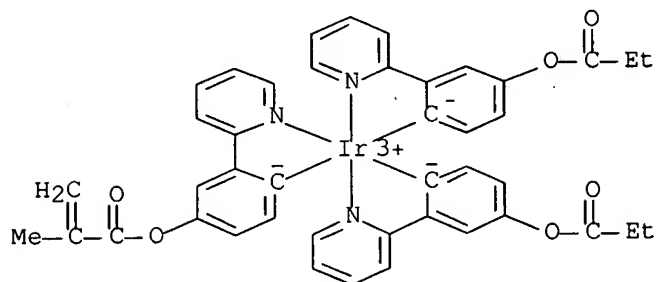


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CMF C43 H36 Ir N3 O6

CCI CCS



RN 481694-58-0 HCAPLUS

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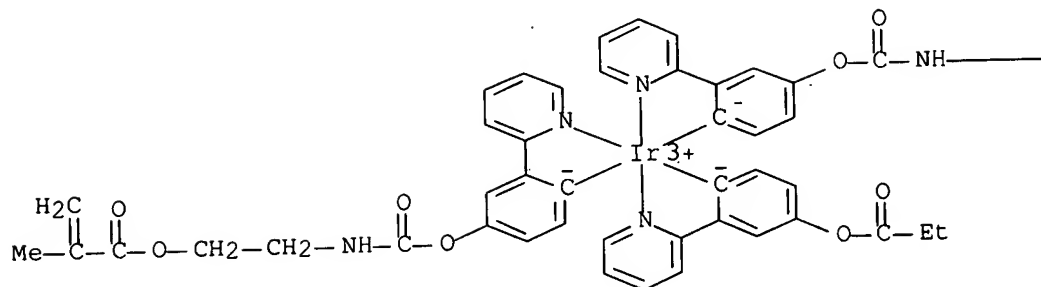
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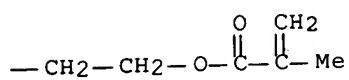
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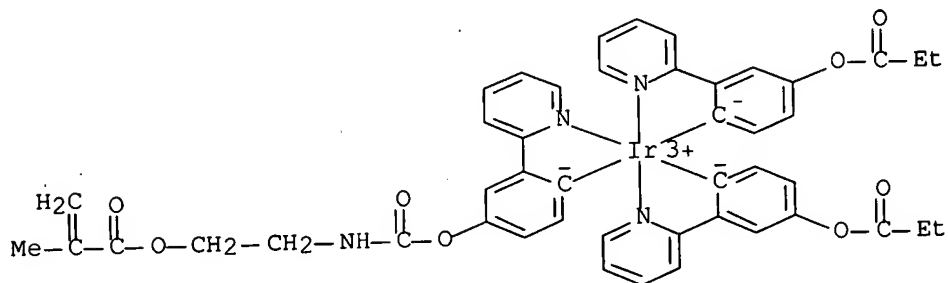


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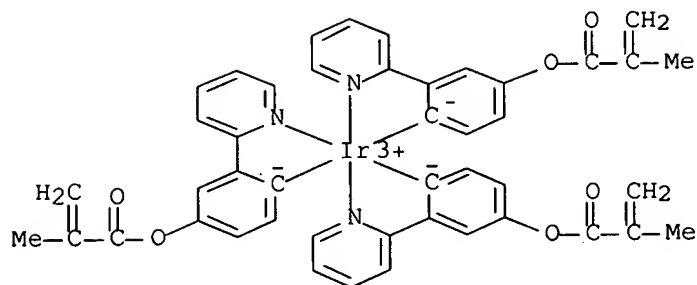
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RN 481694-59-1 HCAPLUS
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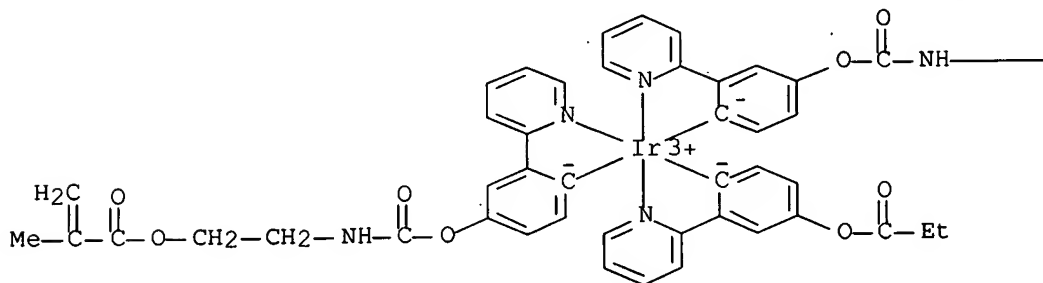


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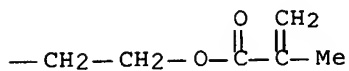
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PAGE 1-B



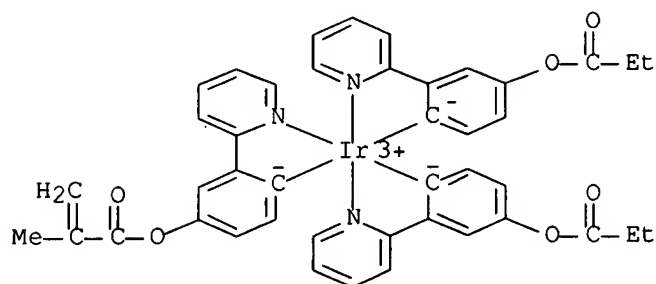
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RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
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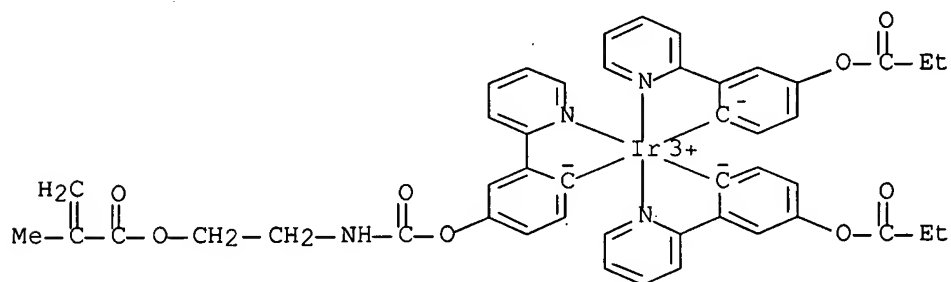
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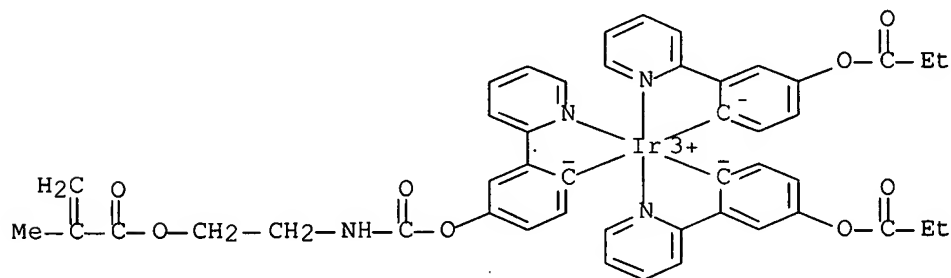
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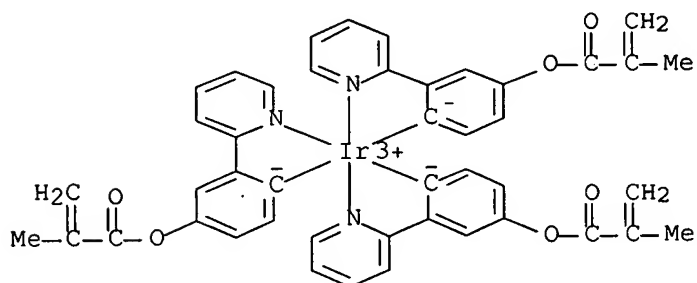
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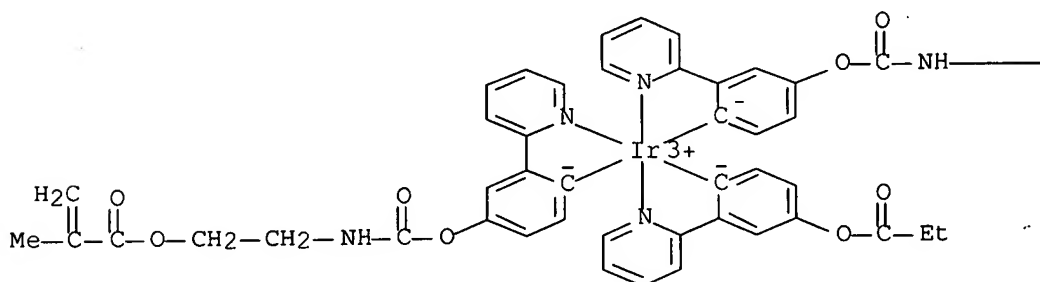
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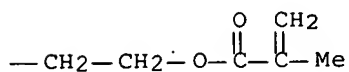
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 CN Iridium, tris[4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



RN 481694-56-8 HCAPLUS
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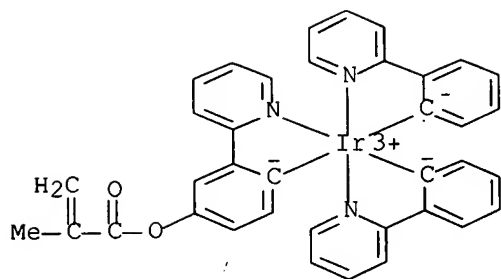


PAGE 1-B

RN 481694-68-2 HCAPLUS
 CN Iridium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl- κ N)phenyl- κ C]bis[2-(2-pyridinyl- κ N)phenyl- κ C] -, homopolymer (9CI) (CA INDEX NAME)

CM 1

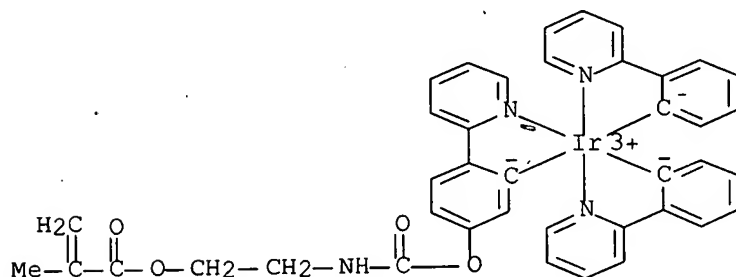
CRN 481694-63-7
 CMF C37 H28 Ir N3 O2
 CCI CCS



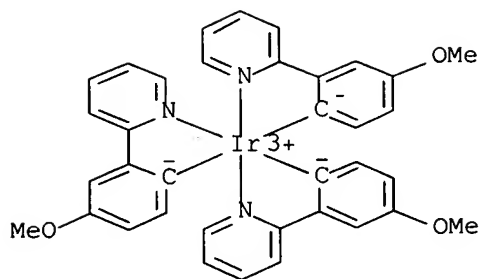
RN 481694-70-6 HCAPLUS
 CN Iridium, [5-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy
]-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-
 κN)phenyl-κC]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 481694-69-3
 CMF C40 H33 Ir N4 O4
 CCI CCS

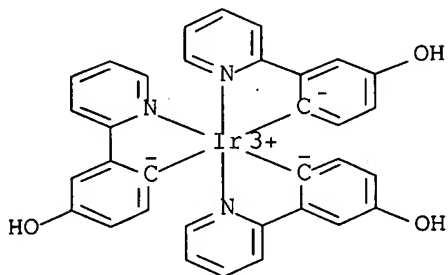


IT 481694-46-6P 481694-47-7P 481694-48-8P
 481694-49-9P 481694-51-3P 481694-55-7P
 481694-61-5P 481694-62-6P 481694-63-7P
 481694-65-9P 481694-66-0P 481694-67-1P
 481694-69-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (light emitting material and organic light-emitting device using
 phosphorescent iridium Ph pyridine polymer derivative)
 RN 481694-46-6 HCAPLUS
 CN Iridium, tris[4-methoxy-2-(2-pyridinyl-κN)phenyl-κC]- (9CI)
 (CA INDEX NAME)



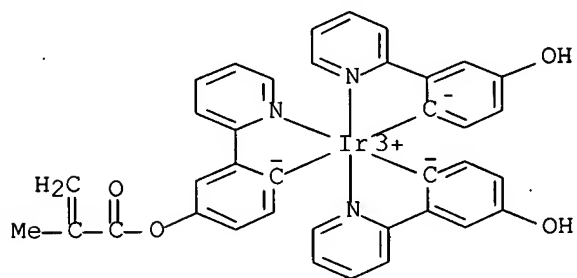
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CN Iridium, tris[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] - (9CI)
(CA INDEX NAME)



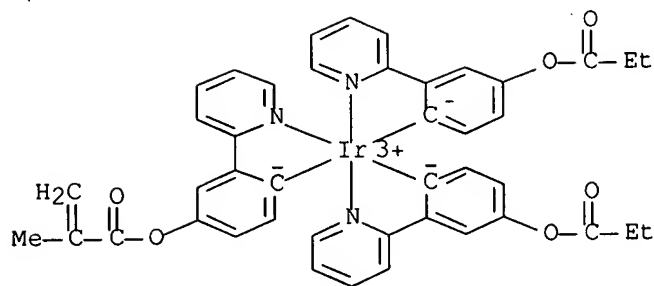
RN 481694-48-8 HCAPLUS

CN Iridium, bis[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



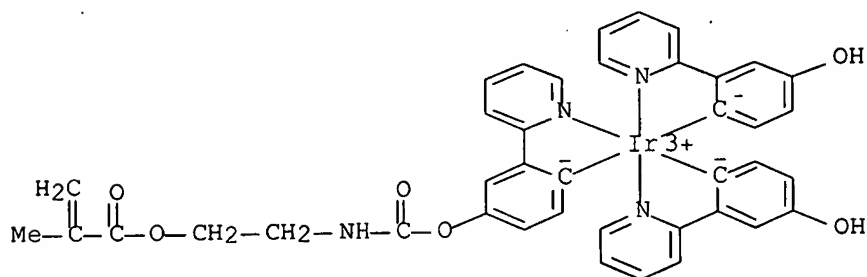
RN 481694-49-9 HCAPLUS

CN Iridium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl-κN)phenyl-κC]bis[4-(1-oxopropoxy)-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 481694-51-3 HCAPLUS

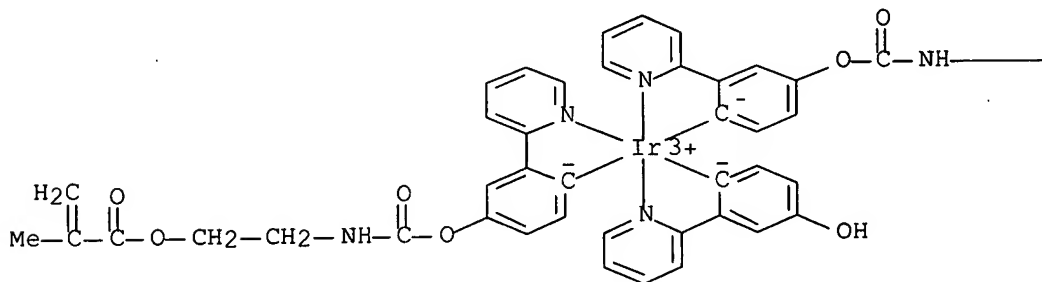
CN Iridium, bis[4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] [4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



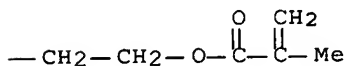
RN 481694-55-7 HCAPLUS

CN Iridium, [4-hydroxy-2-(2-pyridinyl-κN)phenyl-κC] bis[4-[[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy]-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)

PAGE 1-A

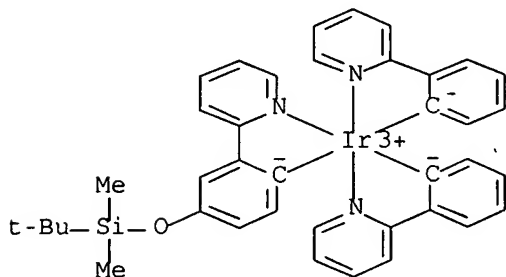


PAGE 1-B



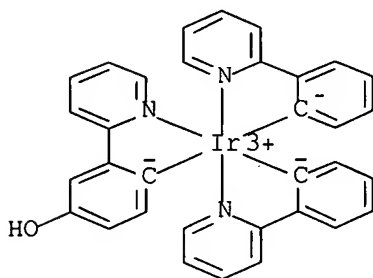
RN 481694-61-5 HCAPLUS

CN Iridium, [4-[[{(1,1-dimethylethyl)dimethylsilyl}oxy]-2-(2-pyridinyl- κ N)phenyl- κ C]bis[2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



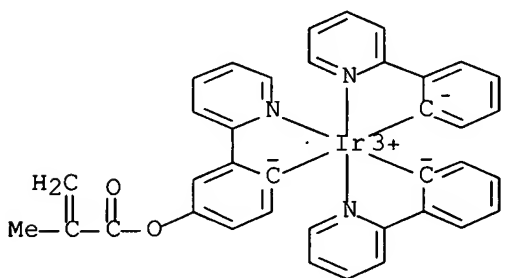
RN 481694-62-6 HCAPLUS

CN Iridium, [4-hydroxy-2-(2-pyridinyl- κ N)phenyl- κ C]bis[2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



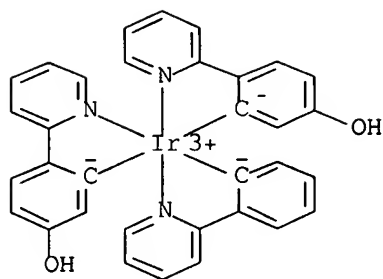
RN 481694-63-7 HCAPLUS

CN Iridium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]-2-(2-pyridinyl- κ N)phenyl- κ C]bis[2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



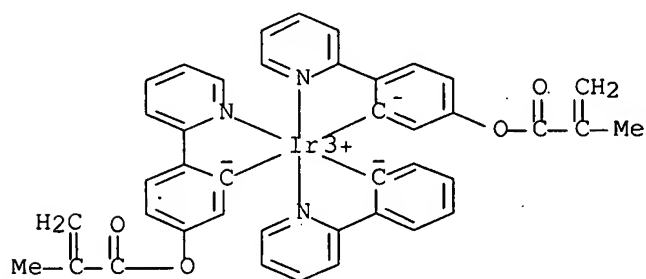
RN 481694-65-9 HCAPLUS

CN Iridium, bis[5-hydroxy-2-(2-pyridinyl- κ N)phenyl- κ C][2-(2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)



RN 481694-66-0 HCAPLUS

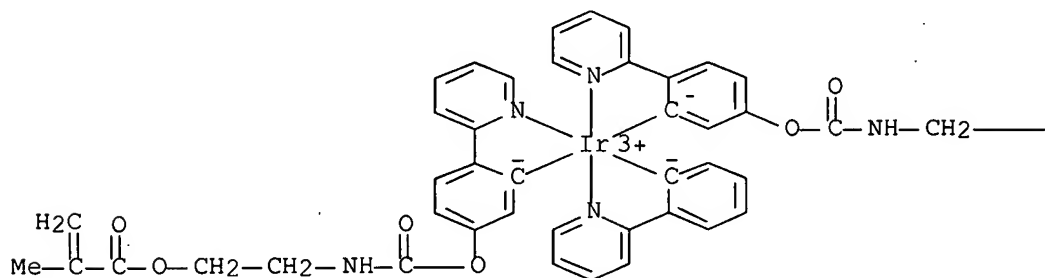
CN Iridium, bis [5- [(2-methyl-1-oxo-2-propenyl)oxy] -2- (2-pyridinyl- κ N)phenyl- κ C] [2- (2-pyridinyl- κ N)phenyl- κ C] - (9CI)
(CA INDEX NAME)



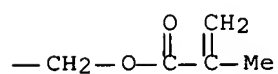
RN 481694-67-1 HCAPLUS

CN Iridium, bis [5- [[[2- [(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]carbonyl]oxy] -2- (2-pyridinyl- κ N)phenyl- κ C] [2- (2-pyridinyl- κ N)phenyl- κ C] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



Chemical structure of the Ir(III) complex 1. The structure shows an Ir(III) center coordinated by three bipyridine ligands and a carboxylate group. The carboxylate group is part of a side chain: Me-C(=O)-CH₂-CH₂-NH-C(=O)-O-COO⁻.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	EP 1267428	A2	20021218	EP 2002-254090	20020612 <--	
	EP 1267428	A3	20070425			
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
	US 2003091860	A1	20030515	US 2002-167120	20020610 <--	
	US 6855438	B2	20050215			
	JP 2003064355	A	20030305	JP 2002-171356	20020612 <--	
	US 2005048319	A1	20050303	US 2004-960999	20041007 <--	
PRAI	JP 2001-181543	A	20010615	<--		
	US 2002-167120	A3	20020610	<--		

AB Organic electroluminescent elements are described which comprise a light-emitting layer containing a fluorescent compound and a **phosphorescent** compound, the fluorescent compound having a nitrogen atom number to carbon atom number ratio in the mol. (N/C) of 0-0.05 and for which the maximum emission wavelength of light emitted according to **electroluminescence** of the element is longer than the maximum fluorescence wavelength of the fluorescent compound. Displays employing the elements are also described.

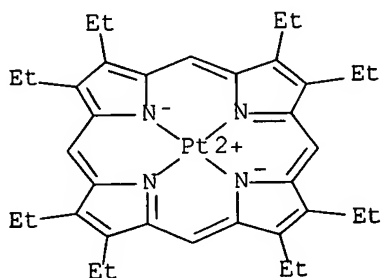
IC ICM H01L0051-20
ICS H01L0027-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 76

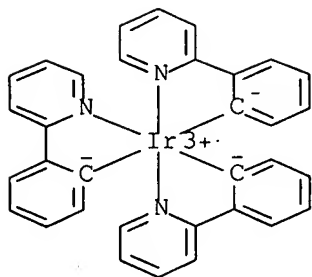
ST org electroluminescent element display fluorescent
phosphorescent mixt

IT Electroluminescent devices

- (displays; organic electroluminescent elements using mixed fluorescent and phosphorescent materials and displays employing them)
- IT Luminescent screens
(electroluminescent; organic electroluminescent elements using mixed fluorescent and phosphorescent materials and displays employing them)
- IT Electroluminescent devices
Fluorescent substances
Phosphorescent substances
(organic electroluminescent elements using mixed fluorescent and phosphorescent materials and displays employing them)
- IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproin 7429-90-5, Aluminum, uses 7440-04-2D, Osmium, compds. 7789-24-4, Lithium fluoride, uses 31248-39-2 37271-44-6 50926-11-9, ITO 51325-95-2, DCM2 65181-79-5 94928-86-6 123847-85-8, α -NPD 149005-33-4 337526-85-9 337526-98-4
343978-78-9 343978-79-0 400654-08-2 405171-49-5 405172-39-6
405173-85-5 453590-51-7 478262-73-6 478262-74-7 478262-75-8
478262-76-9 478262-77-0 478262-78-1 478262-79-2 478262-80-5
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent elements using mixed fluorescent and phosphorescent materials and displays employing them)
- IT 31248-39-2 94928-86-6 149005-33-4 337526-98-4
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent elements using mixed fluorescent and phosphorescent materials and displays employing them)
- RN 31248-39-2 HCAPLUS
- CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)]-
KN21,KN22,KN23,KN24]-, (SP-4-1)- (CA INDEX NAME)

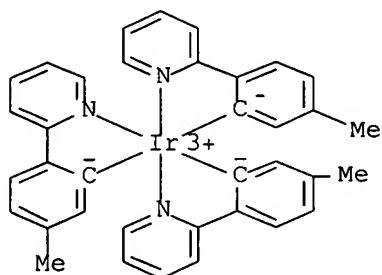


- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



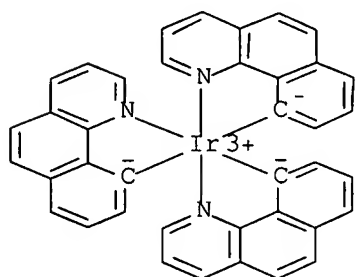
RN 149005-33-4 HCAPLUS

CN Iridium, tris[5-methyl-2-(2-pyridinyl)phenyl-C,N]-, (OC-6-22)- (CA INDEX NAME)



RN 337526-98-4 HCAPLUS

CN Iridium, tris(benzo[h]quinolin-10-yl-kC,kN)-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 27 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:946396 HCAPLUS Full-text

DN 138:30858

TI Organic electroluminescent element, luminescent material and organic compound

IN Matsusue, Noriyuki; Hamada, Yuji

PA Sanyo Electric Co., Ltd., Japan

SO PCT Int. Appl., 60 pp.

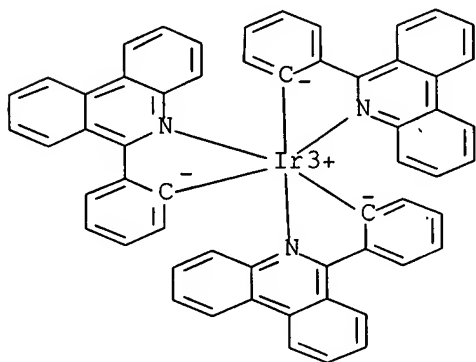
CODEN: PIXXD2

DT Patent

LA Japanese

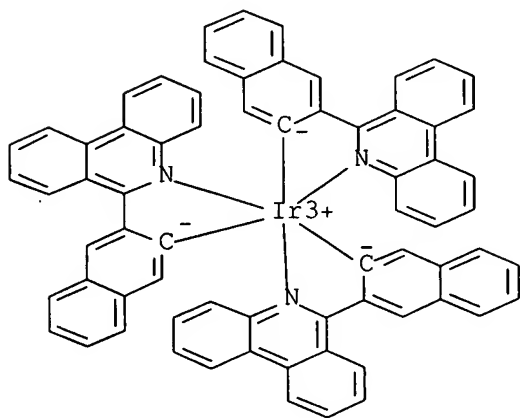
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002099008	A1	20021212	WO 2002-JP5405	20020531 <--
	W: KR, US				
	RW: DE				
	JP 2003059667	A	20030228	JP 2002-155423	20020529 <--
	JP 3650082	B2	20050518		
	EP 1418217	A1	20040512	EP 2002-730860	20020531 <--
	R: DE				
	US 2004239237	A1	20041202	US 2004-479617	20040614 <--
PRAI	JP 2001-167791	A	20010604	<--	
	JP 2002-155423	A	20020529		
	WO 2002-JP5405	W	20020531		
AB	The invention refers to an organic electroluminescent device comprising a Pt group metal such as Ir, complexed with phenanthridine derivs., in the luminescent layer, wherein the complex emits red to orange light though a triplet excited state.				
IC	ICM C09K0011-06				
	ICS H05B0033-14; H05B0033-22; C07F0015-00				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)				
ST	electroluminescent device iridium phenanthridine triplet excited state				
IT	Electroluminescent devices				
	Excited triplet state				
	(organic electroluminescent device with platinum group metal and phenanthridine derivative as luminescent material)				
IT	478007-84-0	478007-85-1	478007-86-2	478007-87-3	
	478007-88-4	478007-89-5	478007-90-8	478007-91-9	478007-92-0
	478007-93-1	478007-94-2	478007-95-3	478007-96-4	
	RL: DEV (Device component use); USES (Uses)				
	(organic electroluminescent device with platinum group metal and phenanthridine derivative as luminescent material)				
IT	478007-84-0	478007-93-1	478007-94-2		
	RL: DEV (Device component use); USES (Uses)				
	(organic electroluminescent device with platinum group metal and phenanthridine derivative as luminescent material)				
RN	478007-84-0 HCAPLUS				
CN	Iridium, tris[2-(6-phenanthridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)				



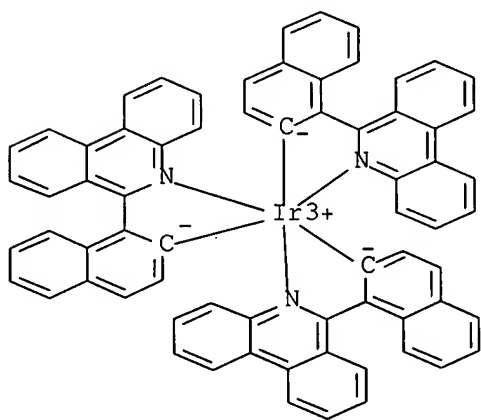
RN 478007-93-1 HCAPLUS

CN Iridium, tris[3-(6-phenanthridinyl-κN)-2-naphthalenyl-κC] -
(9CI) (CA INDEX NAME)



RN 478007-94-2 HCAPLUS

CN Iridium, tris[1-(6-phenanthridinyl-κN)-2-naphthalenyl-κC] -
(9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Asahi Chemical Industry	1990			JP 02-195683 A	HCAPLUS
Canon Inc	1995			JP 07-263145 A	HCAPLUS
Chemipro Kasei Kabushik	1997			JP 09-316441 A	HCAPLUS
Ecole Polytechnique Fed	1999			EP 1012892 A1	HCAPLUS
Ecole Polytechnique Fed	1999			JP 2001512145 A	
Ecole Polytechnique Fed	1999			WO 9907028 A	HCAPLUS
Fuji Photo Film Co Ltd	2000			JP 2000144125 A	HCAPLUS
Japan Science And Techn	2001			JP 2001131162 A	HCAPLUS
Nec Corp	1999			JP 11-273866 A	HCAPLUS
Nec Corp	1999			TW 415157 A	HCAPLUS
Nec Corp	1999			KR 99078128 A	

Sanyo Electric Co Ltd	1999		JP 11-339962 A	HCAPLUS
Shinko Electric Industr	1997		JP 07-133281 A	HCAPLUS
Shinko Electric Industr	1997		US 5620806 A	HCAPLUS
Shinko Electric Industr	1997		EP 652274 A1	HCAPLUS
Shinko Electric Industr	1997		DE 69416566 C	

L92 ANSWER 28 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:945151 HCAPLUS Full-text

DN 138:46998

TI Electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer

IN Okada, Shinjiro; Furugori, Manabu; Tsuboyama, Akira; Takiguchi, Takao; Miura, Kiyoshi; Moriyama, Takashi; Kamatani, Atsushi

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002359079	A	20021213	JP 2001-164354	20010531 <--
PRAI	JP 2001-164354		20010531	<--	

AB The invention refers to an electroluminescent device comprising a luminescent layer with at least two components, wherein the central value of the distribution of the lowest triplet excited energy level of the principal component of the luminescent layer in a solid membrane is outside the lowest triplet excited energy level distribution and is of the secondary component and is higher than the central value of that level, in order to increase the stability of the luminescence.

IC ICM H05B0033-14

ICS C09K0011-06; H05B0033-12; H05B0033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electroluminescent display triplet excited state phosphorescence

IT Electroluminescent devices

(displays; electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

IT Electroluminescent devices

Excited triplet state
Phosphorescence

(electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

IT Luminescent screens

(electroluminescent; electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

IT 58328-31-7

RL: DEV (Device component use); USES (Uses)

(electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

IT 94928-86-6 405289-73-8 405289-74-9

405289-75-0 405289-76-1 405289-77-2

405518-89-0 405890-11-1 405890-24-6

405890-25-7 405927-91-5 405927-92-6

433692-48-9 458532-65-5 459133-45-0

459133-46-1

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

IT 94928-86-6 405289-73-8 405289-74-9

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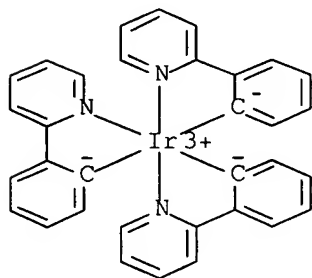
405890-25-7 405927-91-5 405927-92-6

458532-65-5 459133-45-0 459133-46-1

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

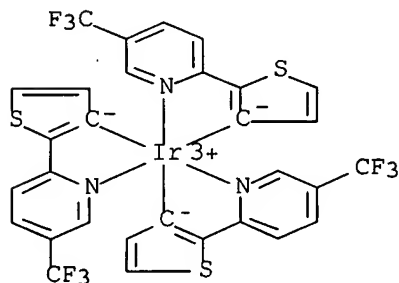
(electroluminescent device and display using host-guest material with specified triplet state energy levels in luminescent layer)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)

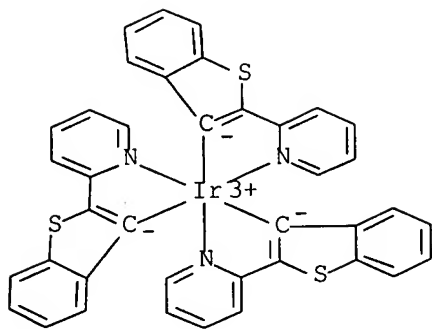
RN 405289-73-8 HCAPLUS

CN Iridium, tris[2-[5-(trifluoromethyl)-2-pyridinyl-κN]-3-thienyl-κC]-, (OC-6-22) - (9CI) (CA INDEX NAME)



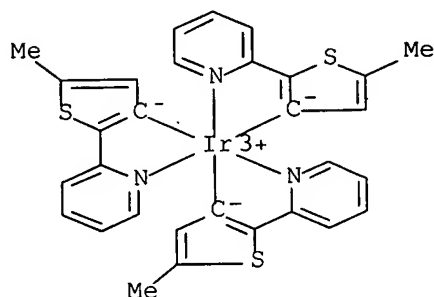
RN 405289-74-9 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)benzo[b]thien-3-yl-κC]- (9CI)
(CA INDEX NAME)



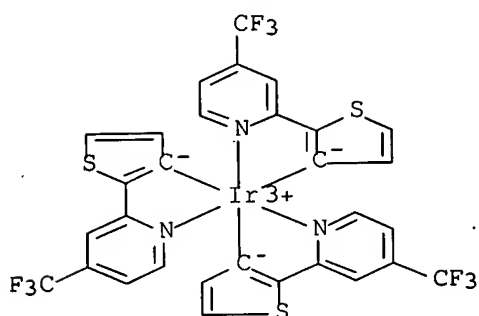
RN 405289-75-0 HCAPLUS

CN Iridium, tris[5-methyl-2-(2-pyridinyl-κN)-3-thienyl-κC]-,
(OC-6-22) - (9CI) (CA INDEX NAME)



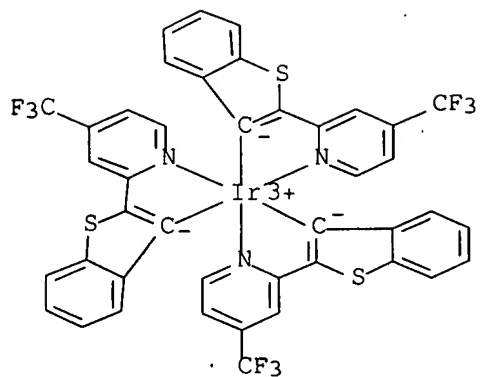
RN 405289-76-1 HCAPLUS

CN Iridium, tris[2-[4-(trifluoromethyl)-2-pyridinyl-κN]-3-thienyl-
κC]- (9CI) (CA INDEX NAME)



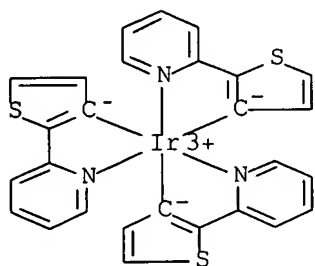
RN 405289-77-2 HCAPLUS

CN Iridium, tris[2-[4-(trifluoromethyl)-2-pyridinyl-κN]benzo[b]thien-3-
yl-κC]- (9CI) (CA INDEX NAME)



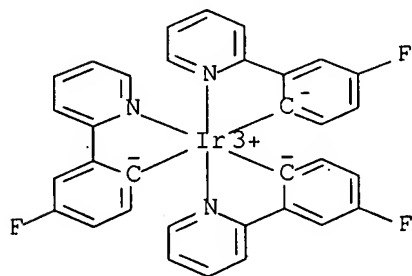
RN 405518-89-0 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)-3-thienyl-κC] - (9CI) (CA INDEX NAME)



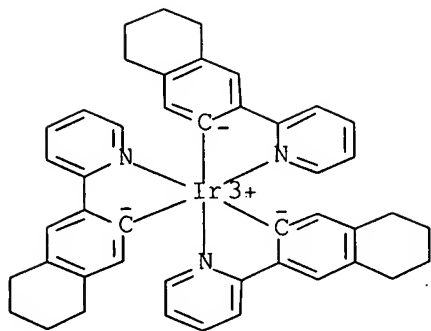
RN 405890-11-1 HCAPLUS

CN Iridium, tris[4-fluoro-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



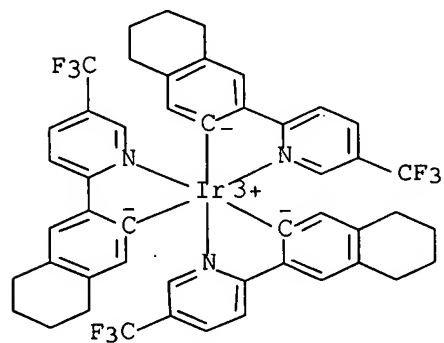
RN 405890-24-6 HCAPLUS

CN Iridium, tris[5,6,7,8-tetrahydro-3-(2-pyridinyl-κN)-2-naphthalenyl-κC] - (9CI) (CA INDEX NAME)



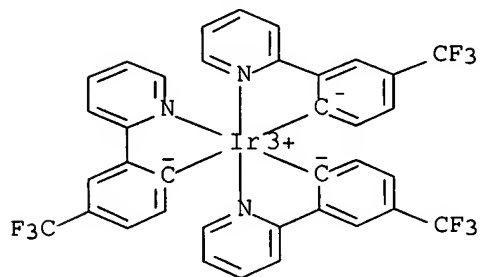
RN 405890-25-7 HCAPLUS

CN Iridium, tris[5,6,7,8-tetrahydro-3-[5-(trifluoromethyl)-2-pyridinyl-κN]-2-naphthalenyl-κC] - (9CI) (CA INDEX NAME)



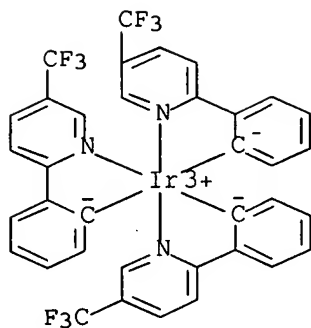
RN 405927-91-5 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)-4-(trifluoromethyl)phenyl-κC] - (9CI) (CA INDEX NAME)



RN 405927-92-6 HCAPLUS

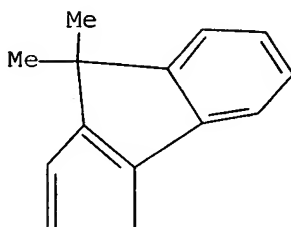
CN Iridium, tris[2-[5-(trifluoromethyl)-2-pyridinyl-κN]phenyl-κC] - (9CI) (CA INDEX NAME)



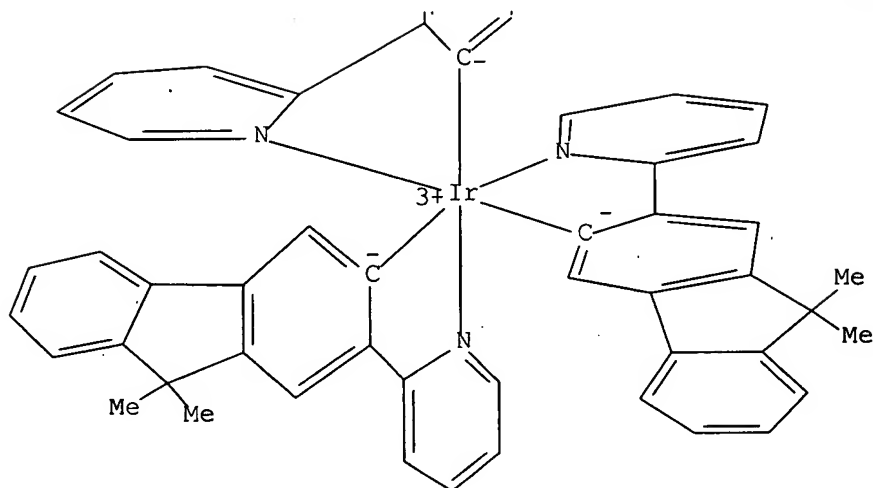
RN 458532-65-5 HCAPLUS

CN Iridium, tris[9,9-dimethyl-2-(2-pyridinyl-κN)-9H-fluoren-3-yl-κC]-, (OC-6-22)-(9CI) (CA INDEX NAME)

PAGE 1-A

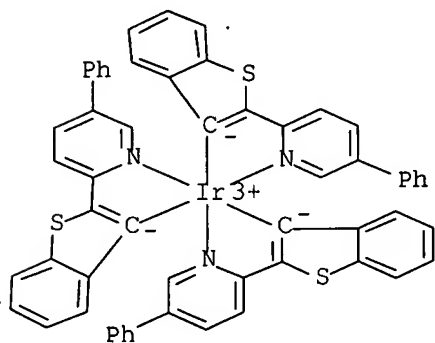


PAGE 2-A



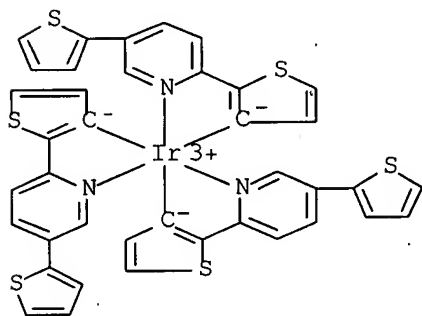
RN 459133-45-0 HCAPLUS

CN Iridium, tris[2-(5-phenyl-2-pyridinyl-κN)benzo[b]thien-3-yl-κC] - (9CI) (CA INDEX NAME)



RN 459133-46-1 HCAPLUS

CN Iridium, tris[2-[5-(2-thienyl)-2-pyridinyl-κN]-3-thienyl-κC] - (9CI) (CA INDEX NAME)



L92 ANSWER 29 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:928080 HCAPLUS Full-text

DN 138:17951

TI Organometallic compounds and emission-shifting organic electrophosphorescence

IN Lamansky, Sergey; Thompson, Mark E.; Adamovich, Vadim; Djurovich, Peter I.; Adachi, Chihaya; Baldo, Marc A.; Forrest, Stephen R.; Kwong, Raymond

PA The Trustees of Princeton University, USA; Universal Display Corporation; The University of Southern California

SO U.S. Pat. Appl. Publ., 87 pp., Cont.-in-part of U.S. Ser. No. 637,766.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002182441	A1	20021205	US 2001-978455	20011016 <--
	US 6939624	B2	20050906		
	US 6911271	B1	20050628	US 2000-637766	20000811 <--
	TW 593625	B	20040621	TW 2001-90119946	20010813 <--
	US 2005214576	A1	20050929	US 2005-122160	20050503 <--
PRAI	US 2000-637766	A2	20000811	<--	
	US 2001-283814P	P	20010413	<--	
	US 2001-978455	A1	20011016	<--	

AB Organic light-emitting devices including an emissive layer comprising an organometallic compound are described in which the organometallic compound comprises a heavy transition metal (e.g., Os, Ir, Pt, or Au) that produces an efficient phosphorescent emission at room temperature from a mixture of metal-to-ligand charge transfer and π - π^* ligand states; ≥ 1 mono-anionic bidentate carbon-coordination ligand bound to the heavy transition metal, the ligand(s) being substituted with an electron-donating substituent and/or an electron-withdrawing substituent which shifts the emission, relative to the unsubstituted ligand, to either the blue, green, or red region of the visible spectrum; and ≥ 1 non-monoanionic bidentate carbon-coordination ligand bound to the heavy transition metal which ligand(s) causes the emission to have a well defined vibronic structure. The organometallic compds. are also claimed.

IC ICM H05B0033-14

ICS C09K0011-06

INCL 428690000; 428917000; 313504000; 313506000; 257102000; 257103000; 252301160; 544225000; 546002000; 548101000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 76, 78

ST org light emitting device emission shifting organometallic complex

IT Luminescent substances

Phosphorescent substances

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT Electroluminescent devices

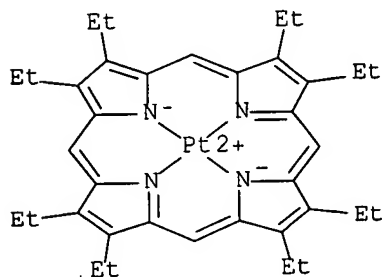
(organic; organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 31248-39-2 50926-11-9, Indium tin oxide 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 65181-78-4, TPD 94928-86-6, fac-Tris(2-phenylpyridine)iridium 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 146162-54-1

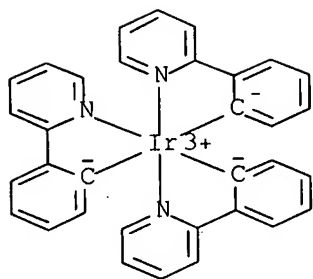
RL: DEV (Device component use); USES (Uses)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

- IT 40243-13-8P 345659-08-7P 376367-93-0P 376367-95-2P
 391665-84-2P 400653-85-2P 400653-86-3P 400653-87-4P
 400653-88-5P 400653-89-6P 400653-90-9P 400653-91-0P 400653-92-1P
 400653-93-2P 400653-94-3P 400653-95-4P 400653-96-5P 400653-97-6P
 400653-98-7P 400654-01-5P 400654-02-6P 400654-04-8P 400654-05-9P
 400654-06-0P 400654-08-2P 400654-10-6P 400654-12-8P 400654-13-9P
 RL: DEV (Device component use); MOA (Modifier or additive use); SPN
 (Synthetic preparation); PREP (Preparation); USES (Uses)
 (organic light-emitting devices using emission shifting
 organometallic complexes and the complexes)
- IT 88821-71-0 125051-45-8 400654-15-1 400655-42-7
 RL: PRP (Properties)
 (organic light-emitting devices using emission shifting
 organometallic complexes and the complexes)
- IT 56-40-6, Glycine, reactions 98-97-5, Pyrazinecarboxylic acid 98-98-6,
 Picolinic acid 109-04-6, 2-Bromopyridine 110-86-1, Pyridine, reactions
 123-54-6, 2,4-Pentadione, reactions 151-50-8, Potassium cyanide
 366-18-7, 2,2'-Bipyridine 540-72-7, Sodium thiocyanide 603-35-0,
 Triphenylphosphine, reactions 939-23-1, 4-Phenylpyridine 1663-45-2,
 1,2-Bis(diphenylphosphino)ethane 7188-38-7, tert-Butylisocyanide
 10025-83-9, Iridium trichloride 15635-87-7, Iridium
 tris(acetylacetonate) 18583-60-3, Potassium tris(pyrazolyl)borate
 40243-18-3 99646-28-3 125081-56-3 144025-03-6, 2,4-
 Difluorophenylboronic acid 155475-93-7 158333-96-1 400653-99-8
 400654-03-7 400654-07-1 400654-09-3 400654-11-7 400654-14-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (organic light-emitting devices using emission shifting
 organometallic complexes and the complexes)
- IT 391604-55-0P 391611-77-1P 400654-00-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (organic light-emitting devices using emission shifting
 organometallic complexes and the complexes)
- IT 31248-39-2 94928-86-6, fac-Tris(2-phenylpyridine)iridium
 RL: DEV (Device component use); USES (Uses)
 (organic light-emitting devices using emission shifting
 organometallic complexes and the complexes)
- RN 31248-39-2 HCAPLUS
 CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 KN21,KN22,KN23,KN24]-, (SP-4-1)- (CA INDEX NAME)



- RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)

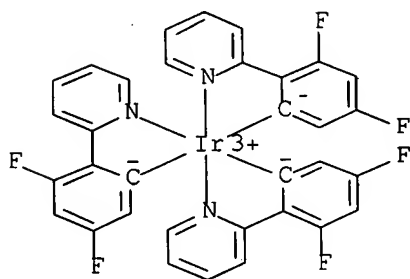


IT 391665-84-2P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN
(Synthetic preparation); PREP (Preparation); USES (Uses)
(organic light-emitting devices using emission shifting
organometallic complexes and the complexes)

RN 391665-84-2 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(2-pyridinyl-kappa N)phenyl-kappa C]-,
(OC-6-22) - (9CI) (CA INDEX NAME)



RETABLE

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Adachi, C		78	1622	App. Phys. Lett.	HCAPLUS
Adachi, C		77	904	App. Phys. Lett.	HCAPLUS
Adachi, C	2000	87	8049	J. Appl. Phys.	HCAPLUS
Adachi, C	2001	2	37	Organic Electronics,	HCAPLUS
Anon					
Anon	1999			The Website of the A	
Baldo, M		75	4	Applied Physics Lett	HCAPLUS
Baldo, M	2000	403	750	Nature	HCAPLUS
Baldo, M	1998	395	151	Nature, Highly effic	HCAPLUS
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Cockburn, B	1973	4	404	Dalton Transactions	
D.F. O'Brien		74	442	Applied Physics Lett	
Demas, J	1991	63	829	Analytical Chemistry	
Dimarco, G	1996	8	576	Advanced Materials	HCAPLUS
Et Al Von Zelewsky	1994	132	75	Coordination Chemist	

Ford, W	1992	96	2917	J. Phys. Chem.	HCAPLUS
Friend, R	1999	397	121	Nature, Electrolumin	HCAPLUS
Gary Miessler, L	1998		1	Inorganic Chemistry	
Grice, A		73	629	Appl. Phys. Lett., H	HCAPLUS
Grushin	2002			US 20020121638 A1	
Grushin	2002			US 20020190250 A1	HCAPLUS
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Holmlin, R	1996	118	5236	J. Am. Chem. Soc.	HCAPLUS
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Kita	2003			US 6656608 B1	HCAPLUS
Kunugi, Y		120	589	J. Am. Chem. Soc.	HCAPLUS
Lamansky	1999			Optical Properties o	
Lamansky, S	2001	40	1704	Inorganic Chemistry	HCAPLUS
Lamansky, S		123	4304	Journal of the Ameri	HCAPLUS
Lee, C		77	2280	Appl. Phys. Lett.	HCAPLUS
Lohse, O	1999		45	Symett, The Palladiu	HCAPLUS
Ma, Y		12	433	Adv. Mat., A ligand-	HCAPLUS
Ma, Y	1998	94	245	Synthetic Metals	HCAPLUS
Maestri, M	1992	17	1	Advances in Photoche	HCAPLUS
Shirota		65	807	Appl. Phys. Lett.	HCAPLUS
Thompson	2002			US 20020034656 A1	HCAPLUS
Tsutui, T	1999	38	L1502	Japanese. J. Appl. P	
Vinodgopal, K	1995	99	10883	J. Phys. Chem.	HCAPLUS
Wittmann, H	1994	101	2693	J. Chem. Phys.	HCAPLUS
Wu, Q	2000	39	5248	Inorg. Chem., Blue-1	HCAPLUS
Yang, M	2000	39	L828	Japanese J. Appl. Ph	HCAPLUS

L92 ANSWER 30 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:888441 HCAPLUS Full-text

DN 137:377262

TI High efficiency multi-color electro-phosphorescent OLEDs

IN D'Andrade, Brian; Thompson, Mark E.; Forrest, Stephen R.

PA The Trustees of Princeton University, USA; The University of Southern California

SO PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002091814	A2	20021121	WO 2002-US14956	20020513 <--
	WO 2002091814	A3	20030327		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002305548	A1	20021125	AU 2002-305548	20020513 <--
	US 2002197511	A1	20021226	US 2002-144419	20020513 <--

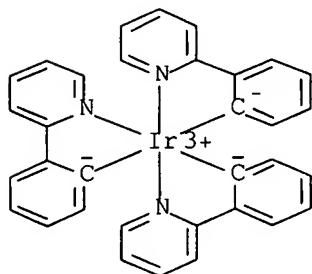
US 7009338 B2 20060307
 EP 1390962 A2 20040225 EP 2002-734378 20020513 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2004522276 T 20040722 JP 2002-588742 20020513 <--
 CN 1543659 A 20041103 CN 2002-811783 20020513 <--
 IN 2003DN01950 A 20051216 IN 2003-DN1950 20031118 <--
 US 2005282036 A1 20051222 US 2005-211385 20050824 <--
 PRAI US 2001-291496P P 20010516 <--
 US 2002-144419 A1 20020513 <--
 WO 2002-US14956 W 20020513
 AB An organic light emitting device is described comprising an anode; a hole transporting layers; an emissive region; an electron transporting layer; and a cathode; wherein the emissive region is comprising a host material and a multiple emissive dopants to generate white emission, and wherein the emissive region is comprising a multiple bands and each emissive dopant is doped into a sep. band within the emissive region, and wherein at least one of the emissive dopants emits light by **phosphorescence**.
 IC H01L
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 ST electro **phosphorescence** light emitting diode multi color
 IT **Electroluminescent devices**
 (high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 376367-93-0
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (blue phosphor dopant; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 7429-90-5, Aluminum, uses
 RL: DEV (Device component use); USES (Uses)
 (cathode; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 94928-86-6
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (green emission dopant; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 2085-33-8, Alq3 7789-24-4, Lithium fluoride (LiF), uses 16152-10-6 50851-57-5, Poly(styrene sulfonic acid) 50926-11-9, Indium tin oxide 123847-85-8, α -NPD 126213-51-2, PEDOT 337526-88-2
 RL: DEV (Device component use); USES (Uses)
 (high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline
 RL: DEV (Device component use); USES (Uses)
 (hole-blocking layer; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 134-85-0
 RL: DEV (Device component use); USES (Uses)
 (red emission layer; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 343978-79-0
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (red emissive layer dopant; high efficiency multi-color electro-**phosphorescent** organic LEDs)
 IT 94928-86-6

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(green emission dopant; high efficiency multi-color electro-phosphorescent organic LEDs)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 31 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:792292 HCAPLUS Full-text

DN 137:301875

TI Novel polymer and its use in luminescent device

IN Taguchi, Toshiki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002302516	A	20021018	JP 2001-104580	20010403 <--
PRAI	JP 2001-104580		20010403	<--	

AB The polymer is represented by (Am)p-(Bn)q (A = monomer unit having both hole-transporting structure and electron-transporting structure; B = monomer unit having structure other than A; m ≥ 1; n ≥ 0; p, q = molar fraction in %; p = 1-100; q = 0-99; p + q = 100). The device has the polymer between electrodes, and preferably uses phosphors emitting light from triplet excited state. The polymer gives the device with high luminance, light-emitting efficiency, and durability.

IC ICM C08F0012-32

ICS C08F0012-26; C08F0026-12; C09K0011-06; H05B0033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 37

ST polymer hole electron transporting structure luminescent device

IT Electroluminescent devices

Phosphors

(polymer having hole-transporting and electron transporting structure for luminescent device)

IT 38215-36-0, Coumarin-6 94928-86-6

RL: DEV (Device component use); USES (Uses)

(phosphor; polymer having hole-transporting and electron transporting structure for luminescent device)

IT 468065-94-3P
 RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polymer having hole-transporting and electron transporting structure for luminescent device)

IT 468065-96-5 468065-98-7 468066-00-4 468066-02-6 468066-04-8 468066-06-0
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses) (polymer having hole-transporting and electron transporting structure for luminescent device)

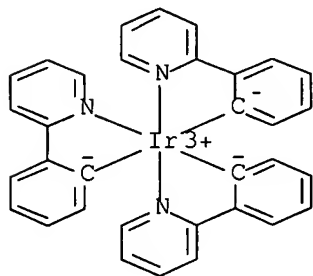
IT 468065-93-2P 468066-07-1P 468066-08-2P 468066-09-3P 468066-10-6P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (polymer having hole-transporting and electron transporting structure for luminescent device)

IT 86-74-8, Carbazole 302-01-2, Hydrazine, reactions 497-19-8, Sodium carbonate, reactions 586-75-4, 4-Bromobenzoyl chloride 2417-72-3, 4-Bromomethylbenzoic acid methyl ester 5122-94-1
 RL: RCT (Reactant); RACT (Reactant or reagent) (polymer having hole-transporting and electron transporting structure for luminescent device)

IT 94928-86-6
 RL: DEV (Device component use); USES (Uses) (phosphor; polymer having hole-transporting and electron transporting structure for luminescent device)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
 (CA INDEX NAME)



L92 ANSWER 32 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:752364 HCAPLUS Full-text
 DN 137:286117
 TI Polymeric phosphorescent metal complexes and polymer light-emitting devices employing the complexes
 IN Ikehira, Hideyuki; Ueoka, Takahiro; Doi, Shuji; Kurita, Yasuyuki
 PA Sumitomo Chemical Company, Limited, Japan
 SO Eur. Pat. Appl., 49 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1245659	A1	20021002	EP 2002-6665	20020326 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

SG 92833	A1	20021119	SG 2002-1515	20020320 <--
US 2002193532	A1	20021219	US 2002-103848	20020325 <--
JP 2003171659	A	20030620	JP 2002-86099	20020326 <--
JP 2007182458	A	20070719	JP 2007-101555	20070409 <--
PRAI JP 2001-89623	A	20010327	<--	
JP 2001-302909	A	20010928	<--	
JP 2002-86099	A3	20020326	<--	

AB Polymeric light-emitting substances having a polystyrene reduced number-average mol. weight of 103-108 are described which comprise in the main chain or side chain a metal complex structure showing light emission from the triplet excited state. Methods of producing the polymeric light-emitting substances involving catalytic copolymn. are discussed. Complexes of formula (L)o-M-(Ar)m-X are described where M = a metal with atomic number ≥ 50 and showing a possibility of intersystem crossing between the singlet state and the triplet state in this complex by a spin-orbital mutual action; Ar = a ligand bonded to M via ≥ 1 of a N, O, C, S and P atom, with bonding to a polymer at an arbitrary position; L represents a H, hydrocarbon group with 1-10 C atoms, carboxylate group with 1-10 C atoms, diketone group with 1-10 C atoms, halogen atom, amide group, imide group, alkoxide group, alkylmercapto group, carbonyl ligand, arylene ligand, alkene ligand, alkyne ligand, amine ligand, imine ligand, nitrile ligand, isonitrile ligand, phosphine ligand, phosphine oxide ligand, phosphite ligand, ether ligand, sulfone ligand, sulfoxide ligand or sulfide ligand; m = integer of 1-5; o = integer of 0-5. ; and X is a halogen atom, arylsulfonyloxy group, or alkylsulfonyloxy group. Polymer light-emitting devices employing the luminescent polymer metal complexes are also discussed.

IC ICM C09K0011-06

ICS H05B0033-14; H01L0051-20; H01L0051-30; C08G0061-02

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 37, 38, 74, 76, 78

ST polymer metal complex phosphorescent substance device
display; triplet excited state luminescent material polymer
metal complex

IT Polymerization

(co-, catalytic; synthesis of phosphorescent polymeric metal
complex using)

IT Polymers, uses

RL: DEV (Device component use); TEM (Technical or engineered material
use); USES (Uses)

(conjugated, metal complex; polymeric phosphorescent metal
complexes and polymer light-emitting devices)

IT Electroluminescent devices

(displays, polymer; polymeric phosphorescent metal
complexes and polymer light-emitting devices)

IT Luminescent screens

(electroluminescent, polymer; polymeric
phosphorescent metal complexes and polymer light-emitting
devices)

IT Light sources

(flat, polymer; polymeric phosphorescent metal complexes and
polymer light-emitting devices)

IT Polymers, uses

RL: DEV (Device component use); TEM (Technical or engineered material
use); USES (Uses)

(metal complexes; polymeric phosphorescent metal complexes
and polymer light-emitting devices)

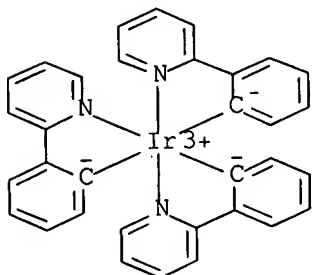
IT Electroluminescent devices

- Liquid crystal displays
(polymer; polymeric phosphorescent metal complexes and polymer light-emitting devices)
- IT Phosphorescent substances
(polymeric; polymeric phosphorescent metal complexes and polymer light-emitting devices)
- IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(cathode buffer layer; polymeric phosphorescent metal complexes and polymer light-emitting devices employing)
- IT 50851-57-5, Polystyrenesulfonic acid 126213-51-2, Poly(ethylenedioxythiophene)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(device layer containing; polymeric phosphorescent metal complexes and polymer light-emitting devices employing)
- IT 7429-91-6D, Dysprosium, polymer complex 7439-88-5D, Iridium, polymer complex 7440-04-2D, Osmium, polymer complex 7440-06-4D, Platinum, polymer complex 7440-15-5D, Rhenium, polymer complex 7440-19-9D, Samarium, polymer complex 7440-27-9D, Terbium, polymer complex 7440-53-1D, Europium, polymer complex 7440-54-2D, Gadolinium, polymer complex 7440-57-5D, Gold, polymer complex
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(polymeric phosphorescent metal complexes and polymer light-emitting devices employing)
- IT 364732-77-4P, Tris[2-(bromophenyl)pyridine]iridium (III)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polymeric phosphorescent metal complexes and polymer light-emitting devices employing complexes)
- IT 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalyst; polymeric phosphorescent metal complexes and polymer light-emitting devices employing)
- IT 344426-19-3DP, reaction products with fluorene/carbazole derivs.
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(synthesis of phosphorescent polymer metal complex using)
- IT 1008-89-5, 2-Phenylpyridine 7726-95-6, Bromine, reactions 15635-87-7 79554-93-1 198964-46-4 444795-95-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of phosphorescent polymer metal complex using)
- IT 344426-19-3P 364732-76-3P, 2-(Bromophenyl)pyridine 364732-79-6P, Bis[2-(phenyl)pyridine]mono[2-(bromophenyl)pyridine]iridium (III) 453538-21-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of phosphorescent polymer metal complex using)
- IT 79554-93-1DP, reaction products with phenylpyridineiridium and fluorene 198964-46-4DP, reaction products with phenylpyridineiridium and carbazoles
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis of phosphorescent polymer metal complex using)
- IT 364732-77-4P, Tris[2-(bromophenyl)pyridine]iridium (III)
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymeric phosphorescent metal complexes and polymer
light-emitting devices employing complexes)

RN 364732-77-4 HCAPLUS

CN Iridium, tris[bromo-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA
INDEX NAME)



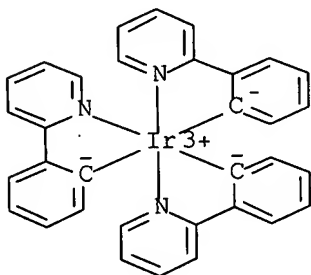
3 (D1-Br)

IT 344426-19-3DP, reaction products with fluorene/carbazole derivs.
RL: DEV (Device component use); PEP (Physical, engineering or chemical
process); PYP (Physical process); SPN (Synthetic preparation); TEM
(Technical or engineered material use); PREP (Preparation); PROC
(Process); USES (Uses)

(synthesis of phosphorescent polymer metal complex using)

RN 344426-19-3 HCAPLUS

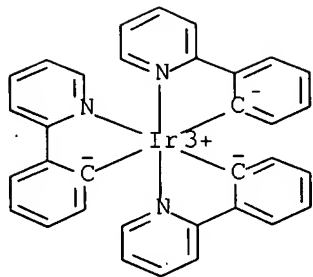
CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC] -, (OC-6-21) - (9CI)
(CA INDEX NAME)



IT 344426-19-3P 364732-79-6P, Bis[2-(phenyl)pyridine]mono[2-
(bromophenyl)pyridine]iridium (III) 453538-21-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(synthesis of phosphorescent polymer metal complex using)

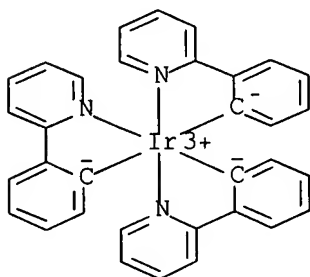
RN 344426-19-3 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC] -, (OC-6-21) - (9CI)
(CA INDEX NAME)



RN 364732-79-6 HCAPLUS

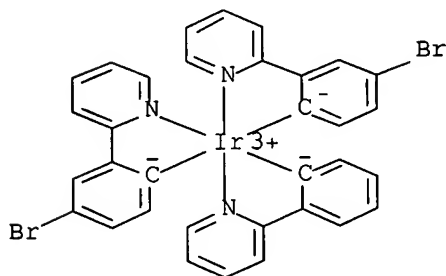
CN Iridium, [bromo-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)



D1- Br

RN 453538-21-1 HCAPLUS

CN Iridium, bis[4-bromo-2-(2-pyridinyl-κN)phenyl-κC][2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-43)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Heiliger, L	1995			US 5442021 A	HCAPLUS
Marrocco, M	2001			WO 0196454 A	HCAPLUS
Oki Electric Ind Co Ltd	1998			JP 10231477 A	HCAPLUS
Philips Patentverwaltun	1998			DE 19726472 A	HCAPLUS

Sumitomo Chemical Co | 2001 | | EP 1138746 A | HCAPLUS

L92 ANSWER 33 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:503505 HCAPLUS Full-text

DN 137:70359

TI Organic light-emitting devices containing a region or a mixed layer provided for lowering energy barriers at interfaces between the organic layers, and electronic devices employing the light-emitting devices

IN Seo, Satoshi; Yamazaki, Shunpei

PA SEL Semiconductor Energy Laboratory Co., Ltd., Japan

SO Eur. Pat. Appl., 78 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1220339	A2	20020703	EP 2001-130487	20011220 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	TW 545080	B	20030801	TW 2001-90131393	20011218 <--
	SG 93298	A1	20021217	SG 2001-7839	20011219 <--
	US 2002121860	A1	20020905	US 2001-24699	20011221 <--
	JP 2002324680	A	20021108	JP 2001-395213	20011226 <--
	CN 1362747	A	20020807	CN 2001-130274	20011228 <--
	CN 1870285	A	20061129	CN 2006-10091624	20011228 <--
PRAI	JP 2000-400730	A	20001228	<--	
	JP 2001-45847	A	20010221	<--	
	CN 2001-130274	A3	20011228	<--	

AB Light emitting devices are described which comprise at least a first layer comprising a first organic compound; and a second layer comprising a second organic compound which is different from the first organic compound, where a region or a mixed layer comprising the first organic compound and the second organic compound between the first layer and the second layer is provided for lowering energy barriers at interfaces between the organic layers. The devices may contain hole-injecting, hole-transporting, electron-transporting, electron-injecting and light-emitting layers as organic compound layers, and may have more than one regions or mixed layers. Electronic devices employing the light-emitting devices are also discussed.

IC ICM H01L0051-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76

ST org electroluminescent device mixed layer interface
energy decrease; electronic device OLED mixed layer interface
energy decrease

IT LUMO (molecular orbital)
(HOMO gap; light-emitting devices containing a region or a mixed layer provided for lowering)

IT HOMO (molecular orbital)
(LUMO gap; light-emitting devices containing a region or a mixed layer provided for lowering)

IT Chemical chains
(conjugated, hole- or electron-injection regions; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT Polymers, uses

RL: DEV (Device component use); USES (Uses)

(conjugates, hole-injecting region; fabrication of light-emitting

- devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT Alkali metal compounds
Lewis bases
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(electron-injecting region containing; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT Lewis acids
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(hole-injecting region containing; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT Halogen compounds
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(hole-injecting region of conjugated system doped with; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT Excited triplet state
(light emission from; light-emitting devices containing a region or a mixed layer provided for lowering energy barriers at interfaces between organic layers and involving)
- IT Electric apparatus
Electroluminescent devices
Electronic device fabrication
Interfacial energy
Optical imaging devices
(light-emitting devices containing a region or a mixed layer provided for lowering energy barriers at interfaces between organic layers, and electronic devices employing light-emitting devices)
- IT 7439-93-2, Lithium, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(-doped bathophenanthroline electron-injection region; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT 50926-11-9, ITO
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(anode; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT 7429-90-5, Aluminum, uses 11099-20-0 12798-95-7
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(cathode; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT 18115-70-3, Lithium acetyl acetonate, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(electron-injection layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
- IT 1662-01-7, Bathophenanthroline 2085-33-8, Alq3 150405-69-9, TAZ

(triazole derivative)

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(electron-transporting layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 4733-39-5, Bathocuproine

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole-blocking layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 147-14-8, Copper phthalocyanine

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole-injection material; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 124729-98-2, 4,4',4'''-Tris [N-(3-methylphenyl)-N-phenylamino]triphenylamine

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole-transporting layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 189363-47-1

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hole-transporting layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing spiro-TAD)

IT 104934-50-1, Poly(3-hexyl)thiophene

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(iodine-doped hole-injecting region; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(light-emitting layer dopant; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

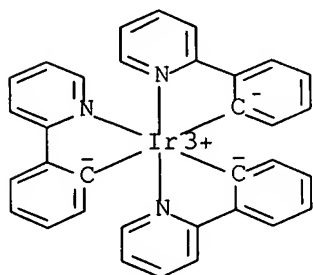
IT 296269-66-4

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(light-emitting layer; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)

IT 146162-54-1

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(light-emitting material host; fabrication of light-emitting devices containing mixed layer lowering energy barriers at

interfaces between organic layers and containing)
 IT 51325-91-8, 4-(Dicyanomethylene)-2-methyl-6-(p-dimethylaminostyryl)-4H-pyran 94928-86-6, Tris (2-phenylpyridine) iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (light-emitting material; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
 IT 14362-44-8, Iodine, atomic, uses
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (polymer hole-injecting region doped with; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
 IT 94928-86-6, Tris (2-phenylpyridine) iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (light-emitting material; fabrication of light-emitting devices containing mixed layer lowering energy barriers at interfaces between organic layers and containing)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
 (CA INDEX NAME)



L92 ANSWER 34 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:480234 HCAPLUS Full-text
 DN 137:39179
 TI Luminescent component
 IN Takematsu, Masakazu; Mishima, Masayuki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 2002180040	A	20020626	JP 2000-374885	20001208 <--
PRAI	JP 2000-374885		20001208	<--	

AB The invention refers to a luminescent component comprising a luminescent layer between two electrodes wherein the luminescent layer contains at least one phosphorescent compound and an elec. inert polymer binder in order to increase the luminescent brightness.

IC ICM C09K0011-06
ICS H05B0033-10; H05B0033-14; H05B0033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electroluminescent device phosphor

IT Electroluminescent devices
Phosphors
(luminescent component)

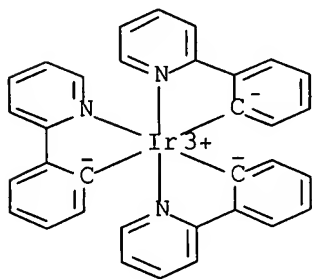
IT Polyvinyl butyrals
RL: DEV (Device component use); USES (Uses)
(luminescent component)

IT 25135-52-8, Panlite TS-2020 94928-86-6
RL: DEV (Device component use); USES (Uses)
(luminescent component)

IT 94928-86-6
RL: DEV (Device component use); USES (Uses)
(luminescent component)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 35 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:466499 HCAPLUS Full-text

DN 137:39172

TI Highly stable and efficient OLEDs with a phosphorescent-doped mixed layer architecture

IN Kwong, Raymond C.; Hack, Michael G.; Zhou, Theodore; Brown, Julia J.; Ngo, Tan D.

PA Universal Display Corp., USA

SO U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 2002074935	A1	20020620	US 2000-738429	20001215 <--
	US 6803720	B2	20041012		
	WO 2002047457	A2	20020620	WO 2001-US47169	20011210 <--
	WO 2002047457	A3	20030724		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
 GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
 GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002030675 A5 20020624 AU 2002-30675 20011210 <--

JP 2004515895 T 20040527 JP 2002-549046 20011210 <--

TW 543337 B 20030721 TW 2001-90131089 20011214 <--

PRAI US 2000-738429 A 20001215 <--

WO 2001-US47169 W 20011210 <--

AB Organic light-emitting devices are described which comprise a substrate; an anode layer over the substrate; a hole injecting layer over the anode layer; a mixed layer over the hole injecting layer, the mixed layer functioning as an emission layer and comprising an organic small mol. hole transporting material, an organic small mol. electron transporting material, and a phosphorescent dopant; and a cathode layer over the mixed layer. An electron transporting layer may be present between the mixed layer and the cathode layer and a hole transporting layer may be present between the hole injecting layer and the mixed layer. Multicolor displays employing the devices as pixels are also described.

IC ICM H01J0063-04

ICS H01J0001-62

INCL 313504000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76

ST org light emitting device phosphorescent material
 doped active layer

IT Phosphorescent substances

(organic light-emitting devices with a phosphorescent
 -doped mixed layer architecture)

IT Electroluminescent devices

(organic; organic light-emitting devices with a
 phosphorescent-doped mixed layer architecture)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinoline)aluminum 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride (LiF), uses 37271-44-6 50926-11-9, Indium tin oxide 123847-85-8

RL: DEV (Device component use); USES (Uses)

(organic light-emitting devices with a phosphorescent
 -doped mixed layer architecture)

IT 31248-39-2 343978-79-0

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(organic light-emitting devices with a phosphorescent
 -doped mixed layer architecture)

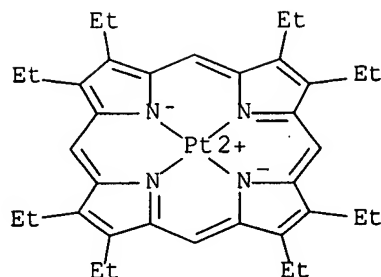
IT 31248-39-2

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(organic light-emitting devices with a phosphorescent
 -doped mixed layer architecture)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 KN21,KN22,KN23,KN24]-, (SP-4-1)- (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Adachi	2003			US 6645645 B1	HCAPLUS
Adachi, C		77	904	Appl. Phys. Lett.	HCAPLUS
Aziz	2002			US 6392250 B1	HCAPLUS
Aziz	2003			US 6614175 B2	HCAPLUS
Aziz	1999	283	1900	Science	HCAPLUS
Baldo	2000			US 6097147 A	HCAPLUS
Baldo	1999		422	Physical Review	
Baldo, M	1999	75	4	Applied Physics Lett	HCAPLUS
Baldo, M	1998	395	151	Nature	HCAPLUS
Boerner	1999			US 5955836 A	HCAPLUS
Burrows	2000	76	2493	Appl. Phys. Lett.	HCAPLUS
Choong	1999	75	172	Appl. Phys. Lett.	HCAPLUS
D.F. O'Brien		74	442	Applied Physics Lett	
Djurovich		41	770	Polymer Preprints	HCAPLUS
Forrest	1997			US 5703436 A	HCAPLUS
Hosokawa	1995	67	3853	Appl. Phys. Lett.	HCAPLUS
Inoue	2002			US 6344283 B1	HCAPLUS
Kunugi, Y	1998	120	589	J. Am. Chem. Soc.	HCAPLUS
Kwong		2000	11	Advanced Materials	
Kwong		11	3709	Chemistry of Materia	HCAPLUS
Naka	1994	33	L1772	Jpn. J. Appl. Phys.	HCAPLUS
Popovic	1998	3476	68	SPIE	HCAPLUS
Shi	2000			US 6130001 A	HCAPLUS
So	1998			US 5853905 A	HCAPLUS
Tang	1994			US 5294870 A	HCAPLUS
Thompson	2001			US 6303238 B1	HCAPLUS

L92 ANSWER 36 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:464585 HCAPLUS Full-text

DN 137:39104

TI Organic electroluminescent devices

IN Mishima, Masayuki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

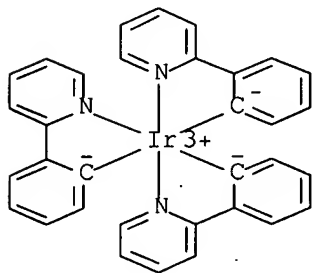
DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002175882	A	20020621	JP 2000-373520	20001207 <--
PRAI JP 2000-373520		20001207	<--	

- AB The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25° < 2.0 x 10⁻¹³ ([cm³][cm])/([cm²][s][pa]); a 1st and a 2nd electrode; an organic phosphor; a hole and an electron transport layer; and a stainless steel encapsulation.
- IC ICM H05B0033-14
ICS C09K0011-06; H05B0033-04
- CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
- ST org electroluminescent device
- IT Electroluminescent devices
Electron transport
Hole transport
Permeability
Phosphorescence
Phosphors
Printing apparatus
(organic electroluminescent devices)
- IT Fluoropolymers, uses
Polycarbonates, uses
Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- IT Polysulfones, uses
RL: DEV (Device component use); USES (Uses)
(polyether-; organic electroluminescent devices)
- IT Polyethers, uses
RL: DEV (Device component use); USES (Uses)
(polysulfone-; organic electroluminescent devices)
- IT Electrodes
(transparent; organic electroluminescent devices)
- IT 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 7631-86-9, Silica, uses 12597-68-1, Stainless steel, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 358974-66-0, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- IT 94928-86-6, Tris(2-phenylpyridine)iridium
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



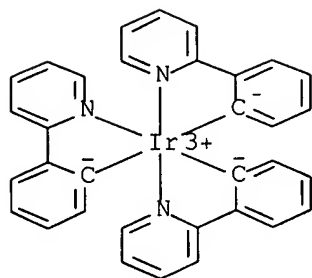
L92 ANSWER 37 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:464584 HCAPLUS Full-text
 DN 137:39103
 TI Organic electroluminescent devices
 IN Mishima, Masayuki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002175881	A	20020621	JP 2000-373518	20001207 <--
PRAI	JP 2000-373518		20001207	<--	
AB	The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25° < 2.0 x 10 ⁻¹³ ([cm ³][cm])/([cm ²][s][pa]); a 1st and a 2nd electrode; an organic phosphor; a hole and an electron transport layer; and a stainless steel encasement containing an oxygen absorber.				
IC	ICM H05B0033-14				
	ICS C09K0011-06; H05B0033-22				
CC	73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)				
ST	org electroluminescent device				
IT	Electroluminescent devices				
	Electron transport				
	Hole transport				
	Permeability				
	Phosphorescence				
	Phosphors				
	Printing apparatus				
	(organic electroluminescent devices)				
IT	Fluoropolymers, uses				
	Polycarbonates, uses				
	Polyesters, uses				
	RL: DEV (Device component use); USES (Uses)				
	(organic electroluminescent devices)				
IT	Polysulfones, uses				
	RL: DEV (Device component use); USES (Uses)				
	(polyether-; organic electroluminescent devices)				
IT	Polyethers, uses				
	RL: DEV (Device component use); USES (Uses)				
	(polysulfone-; organic electroluminescent devices)				
IT	Electrodes				
	(transparent; organic electroluminescent devices)				
IT	101-02-0, Triphenylphosphite 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 1345-25-1, Ferrous oxide, uses 7439-95-4, Magnesium, uses 7631-86-9, Silica, uses 12597-68-1, Stainless steel, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 358974-66-0				
	RL: DEV (Device component use); USES (Uses)				
	(organic electroluminescent devices)				
IT	94928-86-6, Tris(2-phenylpyridine)iridium				
	RL: DEV (Device component use); USES (Uses)				
	(organic electroluminescent devices)				
RN	94928-86-6 HCAPLUS				
CN	Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22) - (9CI)				
	(CA INDEX NAME)				



L92 ANSWER 38 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:464581 HCAPLUS Full-text

DN 137:39102

TI Organic electroluminescent devices

IN Mishima, Masayuki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002175876	A	20020621	JP 2000-373519	20001207 <--
PRAI	JP 2000-373519		20001207	<--	

AB The devices comprise: a polymer substrate (polyester, polycarbonate, polyethersulfone or fluoropolymer) having an oxygen permeability at 25° < 2.0 x 10⁻¹³ ([cm³][cm])/([cm²][s][pa]); a 1st and a 2nd electrode; an organic phosphor; and a hole and an electron transport layer.

IC ICM H05B0033-02

ICS C09K0011-06; H05B0033-10; H05B0033-14

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org electroluminescent device

IT Electroluminescent devices

Electron transport

Hole transport

Permeability

Phosphorescence

Phosphors

Printing apparatus

(organic electroluminescent devices)

IT Fluoropolymers, uses

Polycarbonates, uses

Polyesters, uses

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent devices)

IT Polysulfones, uses

RL: DEV (Device component use); USES (Uses)

(polyether-; organic electroluminescent devices)

IT Polyethers, uses

RL: DEV (Device component use); USES (Uses)

(polysulfone-; organic electroluminescent devices)

IT Electrodes

(transparent; organic electroluminescent devices)

IT 852-38-0, PBD 1314-13-2, Zinc oxide (ZnO), uses 7631-86-9, Silica, uses 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO 58328-31-7 94928-86-6, Tris(2-phenylpyridine)iridium 123847-85-8 358974-66-0, 2,2',2''-(1,3,5-Benzenetriyl)tris[3-(2-methylphenyl)-3H-imidazo[4,5-b]pyridine]

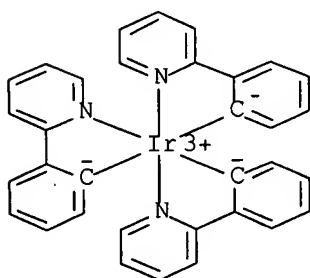
RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)

IT 94928-86-6, Tris(2-phenylpyridine)iridium

RL: DEV (Device component use); USES (Uses)
(organic electroluminescent devices)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 39 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:408395 HCAPLUS Full-text

DN 136:393076

TI Electroluminescent device with phosphor component

IN Mishima, Masayuki; Okada, Hisashi; Araki, Katsumi; Qiu, Xue-Peng; Ise, Toshihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002158091	A	20020531	JP 2000-350170	20001116 <--
	US 2002096995	A1	20020725	US 2001-987639	20011115 <--
	US 6818325	B2	20041116		
PRAI	JP 2000-350170	A	20001116	<--	

AB The invention refers to an electroluminescent device with an electron transport layer and an organic layer comprising a hole transport layer and a luminescent phosphor layer in a two or three layer structure for increased brightness and reduced costs.

IC ICM H05B0033-14
ICS C09K0011-06; H05B0033-10; H05B0033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST electroluminescent device phosphor

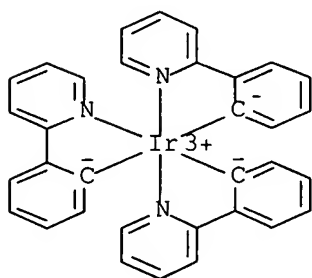
IT Electroluminescent devices
Phosphors
(electroluminescent component)

IT 6726-80-3 25067-59-8, Polyvinyl carbazole 50926-11-9, ITO
 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 65181-78-4, N,
 N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 94928-86-6
 155090-83-8, Baytron P 313950-73-1 358974-66-0 377092-02-9
 428455-07-6
 RL: DEV (Device component use); USES (Uses)
 (electroluminescent component)

IT 94928-86-6
 RL: DEV (Device component use); USES (Uses)
 (electroluminescent component)

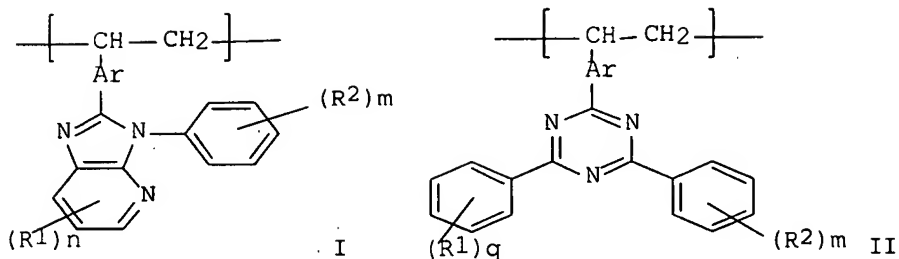
RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 40 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:354001 HCAPLUS Full-text
 DN 136:377202
 TI Light-emitting device and material therefor
 IN Okada, Hisashi; Ise, Toshihiro; Mishima, Masayuki; Taguchi, Toshiki
 PA Fuji Photo Film Co., Ltd., Japan
 SO U.S. Pat. Appl. Publ., 91 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002055014	A1	20020509	US 2001-935711	20010824 <--
	US 6824891	B2	20041130		
	JP 2002319491	A	20021031	JP 2001-236419	20010803 <--
PRAI	JP 2000-254171	A	20000824	<--	
	JP 2001-38718	A	20010215	<--	
	JP 2001-236419	A	20010803	<--	
OS	MARPAT 136:377202				
GI					



AB Light-emitting devices comprising a pair of electrodes formed on a substrate and organic compound layers comprising a light-emitting layer provided in between the electrodes are described in which ≥ 1 of the organic compound layers comprises a heterocyclic compound having ≥ 2 atoms and a **phosphorescent** compound; polymers with repeating units described by the general formulas I and II (Ar = arylene or divalent heterocyclic group; R1 and R2 = independently selected H or substituent; n = 0-3; q = 0-5; and m = 0-5), which may be employed as the heterocyclic compds. in the devices, are also described. The devices may also employ polymers of heterocyclic compds. from which AR is absent. The **phosphorescent** compound may be an organic metal complex.

IC ICM H05B0033-14

ICS C08F0026-06

INCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 27, 28, 38, 76

ST **electroluminescent device heterocycle**
phosphorescent compd mixt active layer; polymer heterocycle
phosphorescent compd mixt active layer electroluminescent device

IT **Phosphorescent substances**

(light-emitting devices with emitting layers including heterocyclic compds. and **phosphorescent** materials and heterocycle derivative polymers for them)

IT Polycarbonates, uses

RL: DEV (Device component use); USES (Uses)

(light-emitting devices with emitting layers including heterocyclic compds. and **phosphorescent** materials and heterocycle derivative polymers for them)

IT **Electroluminescent devices**

(organic; light-emitting devices with emitting layers including heterocyclic compds. and **phosphorescent** materials and heterocycle derivative polymers for them)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 7429-90-5, Aluminum, uses 7789-24-4, Lithium fluoride, uses 12033-89-5, Silicon nitride, uses 15082-28-7 24964-91-8, Tris(4-bromophenyl)aminium hexachloroantimonate 25067-59-8, Poly(N-vinylcarbazole) 37271-44-6 38215-36-0, Coumarin-6 50926-11-9, ITO 51269-91-1 58328-31-7 65181-78-4, N,N'-Bis(3-methylphenyl)-N,N'-diphenylbenzidine 94928-86-6 153838-48-3 173394-18-8 182069-71-2 343978-78-9 350025-75-1 350025-76-2 350025-78-4 350025-79-5 359014-69-0 370878-69-6 377092-13-2 422574-54-7, Silicon nitride oxide (SiN0.300.7) 422574-58-1 422574-60-5 422574-62-7 422574-66-1 422574-67-2 422574-68-3 422574-70-7 422574-72-9 422574-73-0 422574-74-1 422574-76-3 422574-77-4 422574-78-5

422574-84-3 422574-85-4 422574-86-5 422574-87-6 422574-88-7
 422574-89-8 422574-90-1 423117-91-3 423117-92-4 423117-94-6
 423117-96-8 423117-97-9 423117-99-1 423118-00-7 423118-01-8
 423118-03-0 423118-05-2 423721-05-5 423721-07-7 423721-09-9

RL: DEV (Device component use); USES (Uses)

(light-emitting devices with emitting layers including
 heterocyclic compds. and phosphorescent materials and
 heterocycle derivative polymers for them)

IT 313950-73-1P 328238-10-4P 358974-66-0P 377092-02-9P 377092-06-3P
 377092-10-9P 422574-56-9P 422574-64-9P 422574-83-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)

(light-emitting devices with emitting layers including
 heterocyclic compds. and phosphorescent materials and
 heterocycle derivative polymers for them)

IT 62-53-3, Aniline, reactions 95-53-4, o-Toluidine, reactions 104-15-4,
 p-Toluenesulfonic acid, reactions 108-44-1, m-Toluidine, reactions
 578-66-5, 8-Aminoquinoline 586-75-4, 4-Bromobenzoyl chloride 603-35-0,
 Triphenylphosphine, reactions 769-92-6 876-08-4, 4-Chloromethylbenzoyl
 chloride 2039-82-9, 4-Bromostyrene 2156-04-9, 4-Vinylphenylboronic
 acid 2351-37-3, 4,4'-Biphenyldicarbonyl chloride 3842-55-5,
 2-Chloro-4,6-diphenyl-1,3,5-triazine 4422-95-1, 1,3,5-Benzenetricarbonyl
 trichloride 5470-18-8, 2-Chloro-3-nitropyridine

RL: RCT (Reactant); RACT (Reactant or reagent)

(light-emitting devices with emitting layers including
 heterocyclic compds. and phosphorescent materials and
 heterocycle derivative polymers for them)

IT 34949-41-2P 54696-64-9P 54696-67-2P 78750-58-0P 350025-73-9P
 350025-74-0P 377092-01-8P 377092-03-0P 377092-04-1P 377092-05-2P
 377092-07-4P 377092-08-5P 422574-55-8P 422574-61-6P 422574-63-8P
 422574-79-6P 422574-80-9P 422574-81-0P 422574-82-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(light-emitting devices with emitting layers including
 heterocyclic compds. and phosphorescent materials and
 heterocycle derivative polymers for them)

IT 50851-57-5

RL: DEV (Device component use); MOA (Modifier or additive use); USES
 (Uses)

(polyethylene dioxythiophene doped with; light-emitting devices
 with emitting layers including heterocyclic compds. and
 phosphorescent materials and heterocycle derivative polymers for
 them)

IT 126213-51-2, Poly(3,4-ethylenedioxythiophene)

RL: DEV (Device component use); USES (Uses)

(polystyrene sulfonate-doped; light-emitting devices with
 emitting layers including heterocyclic compds. and
 phosphorescent materials and heterocycle derivative polymers for
 them)

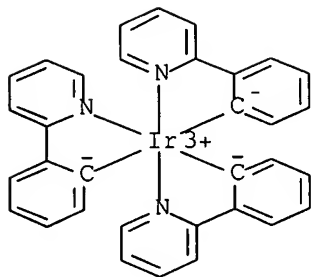
IT 94928-86-6 153838-48-3 370878-69-6

RL: DEV (Device component use); USES (Uses)

(light-emitting devices with emitting layers including
 heterocyclic compds. and phosphorescent materials and
 heterocycle derivative polymers for them)

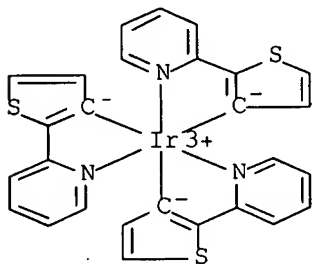
RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



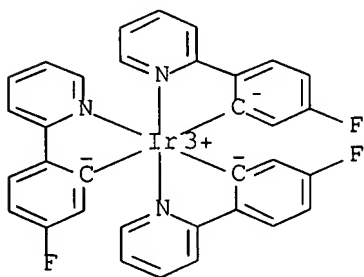
RN 153838-48-3 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)-3-thienyl-κC]-, (OC-6-22)-
(9CI) (CA INDEX NAME)



RN 370878-69-6 HCAPLUS

CN Iridium, tris[5-fluoro-2-(2-pyridinyl-κN)phenyl-κC]-,
(OC-6-22)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1994			JP 08012967 A	HCAPLUS
Anon	1996			JP 878163	
Baldo, M	1999	75	4	Applied Physics lett	HCAPLUS
Forrest	2001			US 6310360 B1	HCAPLUS
Hu	2000			US 6057048 A	HCAPLUS
Tang, C	1987	51	913	Applied Physics Lett	HCAPLUS

AN 2002:290668 HCAPLUS Full-text
 DN 136:316680
 TI Luminescent ink for printing of organic luminescent
 devices
 IN Li, Xiao-Chang Charles
 PA Canon Kabushiki Kaisha, Japan
 SO U.S., 13 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6372154	B1	20020416	US 1999-476396	19991230 <--
PRAI	US 1999-476396		19991230 <--		

AB Organic luminescent ink (L-ink) is disclosed for use in printing thin films of organic luminescent material. The L-ink is particularly useful in fabricating organic optoelectronic devices, e.g. organic luminescent devices. The L-ink contains ≥ 1 organic luminescent material mixed with a solvent and other functional additives to provide the necessary optical, electronic and morphol. properties for light-emitting devices (LEDs). The additives play an important role either for enhanced thin film printing or for better performance of the optoelectronic device. The functional additives may be chemical bound to the luminescent compds. or polymers. Luminescent organic compds., oligomers, or polymers with relatively low solution viscosity, good thin film formability, and good charge transporting properties, are preferred. The L-inks can be cross-linked under certain conditions to enhance thin film properties. The L-ink can be used in various printing methods, such as screen printing, stamp printing, and preferably ink-jet printing (including bubble-jet printing).

IC ICM H01L0051-40
 ICS C09K0011-06

INCL 252301160

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 35, 36, 74

ST luminescent ink printing org electroluminescent device

IT Amines, uses

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (aromatic; luminescent ink for printing of organic luminescent devices)

IT Optical imaging devices

(flat panel displays; luminescent ink for printing of organic luminescent devices)

IT Crosslinking agents

Electrochromic imaging devices

Electroluminescent devices

Ink-jet printing

Inks

Multilayers

Phosphors

Photoelectric devices

Screen printing

Solar cells

Thin film transistors

(luminescent ink for printing of organic luminescent devices)

IT Porphyrins

RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical,

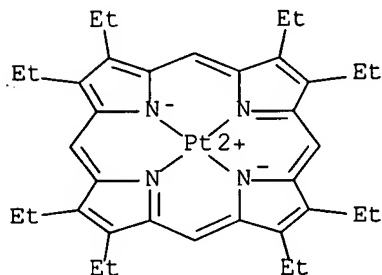
- engineering or chemical process); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT Polyoxyalkylenes, uses
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 147-14-8, Copper phthalocyanine 2085-33-8, Alq3
RL: CPS (Chemical process); DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 195456-48-5, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) 412045-84-2
RL: CPS (Chemical process); DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 81-88-9, Rhodamine B
RL: CPS (Chemical process); MOA (Modifier or additive use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 67-66-3, Chloroform, uses 86-74-8, Carbazole 95-50-1, 1,2-Dichlorobenzene 107-06-2, 1,2-Dichloroethane, uses 108-88-3, Toluene, uses 109-99-9, Tetrahydrofuran, uses 110-02-1, Thiophene 110-86-1, Pyridine, uses 120-12-7, Anthracene, uses 123-91-1, Dioxane, uses 517-51-1, Rubrene 852-38-0, PBD 872-50-4, N-Methyl-2-pyrrolidone, uses 1330-20-7, Xylene, uses 1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 1608-30-6 25321-22-6, Dichlorobenzene 31248-39-2 35296-72-1, Butanol 38215-36-0, 3-(2-Benzothiazolyl)-7-(diethylamino)coumarin 58328-31-7 65181-78-4, TPD 94928-86-6, Tris(2-phenylpyridine) iridium
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 9033-83-4D, Poly(phenylene), derivs. 25067-59-8, Poly(N-vinylcarbazole) 25233-34-5, Polythiophene 25322-68-3, Polyethylene glycol 95270-88-5, Polyfluorene 96638-49-2, Poly(phenylene vinylene)
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(luminescent ink for printing of organic luminescent devices)
- IT 138184-36-8, MEH-PPV
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(luminescent polymer; luminescent ink for printing of organic luminescent devices)
- IT 7732-18-5, Water, uses
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(solvent; luminescent ink for printing of organic

luminescent devices)

IT 31248-39-2 94928-86-6, Tris(2-phenylpyridine) iridium
 RL: CPS (Chemical process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (luminescent ink for printing of organic luminescent devices)

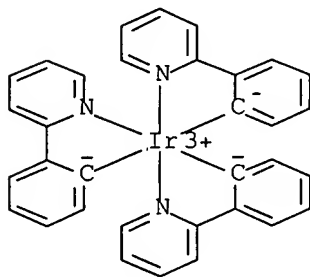
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)

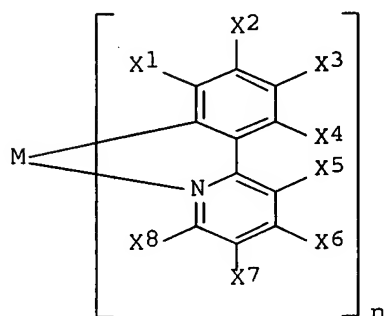


RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baldo, M	1999		4	Very High-Efficiency	HCAPLUS
Cao	1999			US 5965281 A	HCAPLUS
Cao, Y	1998	10	917	Adv Mater	HCAPLUS
Chang	1999	11	734	Adv Mater	HCAPLUS
Garnier, F	1994	265	1684	Science	
O'Brien, D	1999	74	442	Applied Physics Lett	HCAPLUS
Pei	1997			US 5682043 A	HCAPLUS
Shun-Chi Chang, C	1998	73	253	Appl Phys Lett	
Sturm	2000			US 6087196 A	HCAPLUS
Tang, C		51	913	Appl Phys Lett	HCAPLUS
Thompson	2000			US 6013982 A	HCAPLUS
Wachtel	1980			US 4186020 A	HCAPLUS
Xiao-Chang, L	1995		2211	J Chem, Soc, Chem Co	
Zabiak	1979			US 4153593 A	HCAPLUS

L92 ANSWER 42 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:237969 HCAPLUS Full-text
 DN 136:286688
 TI Electroluminescent display device with high brightness
 and efficiency comprising metal coordination compound
 IN Takiguchi, Takao; Mizutani, Hidemasa; Okada, Shinjiro; Tsuboyama, Akira;
 Miura, Seishi; Moriyama, Takashi; Igawa, Satoshi; Kamatani, Jun; Furugori,
 Manabu
 PA Canon Kabushiki Kaisha, Japan
 SO Eur. Pat. Appl., 49 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

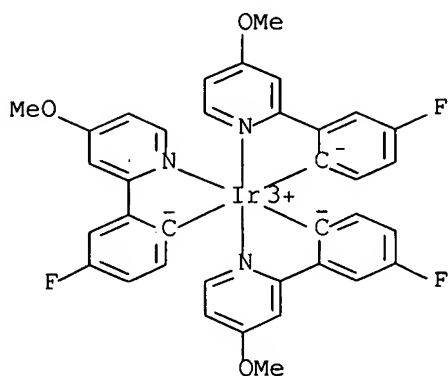
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PI	EP 1191613	A2	20020327	EP 2001-122938	20010925 <--
	EP 1191613	A3	20020717		
	EP 1191613	B1	20060329		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2003146996	A	20030521	JP 2001-284599	20010919 <--
	US 2002064681	A1	20020530	US 2001-961075	20010924 <--
	US 6815091	B2	20041109		
	EP 1598879	A2	20051123	EP 2005-18186	20010925 <--
	R: DE, FR, GB				
	US 2005014025	A1	20050120	US 2004-912128	20040806 <--
	US 7026062	B2	20060411		
	US 2006014047	A1	20060119	US 2005-226258	20050915 <--
PRAI	JP 2000-292492	A	20000926	<--	
	JP 2000-292493	A	20000926	<--	
	JP 2000-358741	A	20001127	<--	
	JP 2000-358742	A	20001127	<--	
	JP 2001-255537	A	20010827	<--	
	JP 2001-284599	A	20010919	<--	
	US 2001-961075	A3	20010924	<--	
	EP 2001-122938	A3	20010925	<--	
	US 2004-912128	A3	20040806	<--	
OS	MARPAT 136:286688				
GI					



- AB A luminescence device is principally constituted by a pair of electrodes and an organic compound layer disposed between. The layer contains a metal coordination compound represented by the formula I (M = Ir, Rh, Pd; n = 2, 3; X1-X8 = halogen, nitro, trifluoromethyl, C1-8-trialkylsilyl, C2-20-alkyl capable of including one or two non-neighboring methylene groups which can be replaced with -O-, -S-, -CO-, -CO-O-, -O-CO-, -CH=CH-, -C.tplbond.C- and capable of including hydrogen atom which can be replaced with fluorine atom; with the proviso that at least one of X1 to X8 is a substituent other than hydrogen atom, and X2 and X3 cannot be fluorine atom at the same time). The object of the present invention is to provide an electroluminescence device capable of providing a high-efficiency luminescent state at a high brightness (or luminance) for a long period while minimizing the deterioration in luminescence in energized state.
- IC ICM H01L0051-20
ICS H05B0033-14; C09K0011-06
- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
- ST electroluminescent display device iridium palladium
rhodium coordination compd
- IT Electroluminescent devices
Luminescence, electroluminescence
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)
- IT Phosphorescence
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound in
relation to)
- IT 405890-12-2 405890-13-3 405890-14-4
405890-15-5 405890-16-6 405890-17-7
405890-18-8 405890-19-9 405890-20-2
405890-23-5 405890-26-8 405890-27-9
405890-28-0 405890-29-1 405890-30-4
405890-31-5 405890-32-6 405890-33-7 405890-34-8
405890-35-9 405890-36-0 405890-37-1
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)
- IT 387859-70-3P 405890-11-1P 405890-24-6P
405890-25-7P 405927-91-5P 405927-92-6P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation); USES (Uses)
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)
- IT 405890-21-3P 405890-22-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)
- IT 405890-12-2 405890-13-3 405890-14-4
405890-15-5 405890-16-6 405890-17-7
405890-18-8 405890-19-9 405890-20-2
405890-23-5 405890-26-8 405890-27-9
405890-28-0 405890-29-1 405890-30-4
405890-31-5 405890-35-9 405890-36-0
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RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)

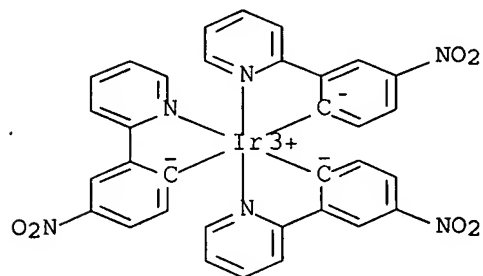
RN 405890-12-2 HCAPLUS

CN Iridium, tris[4-fluoro-2-(4-methoxy-2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



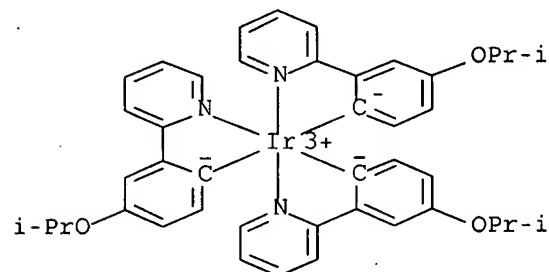
RN 405890-13-3 HCAPLUS

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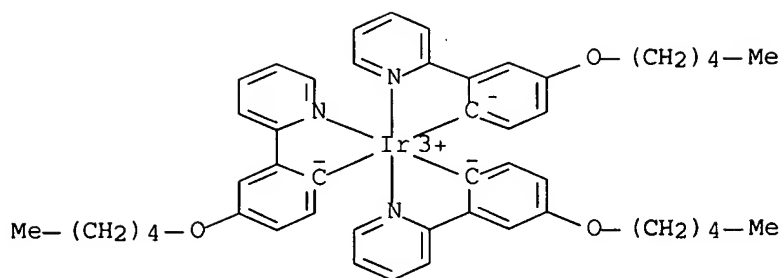
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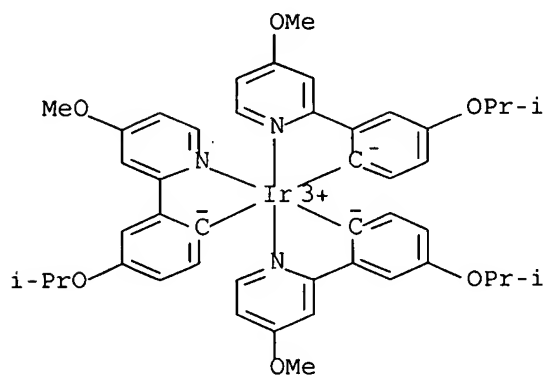
RN 405890-15-5 HCAPLUS

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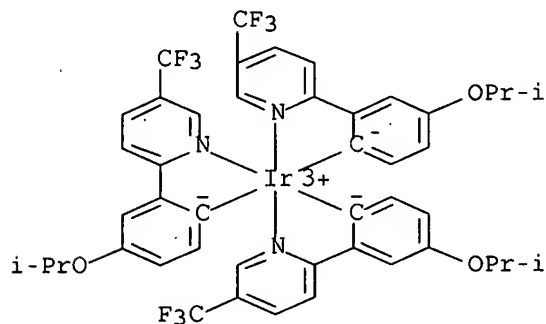
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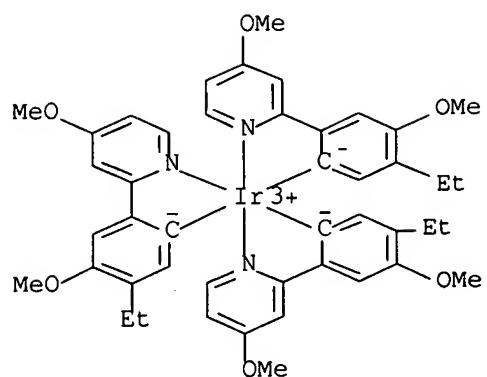
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CN Iridium, tris[4-(1-methylethoxy)-2-[5-(trifluoromethyl)-2-pyridinyl- κ N]phenyl- κ C] - (9CI) (CA INDEX NAME)



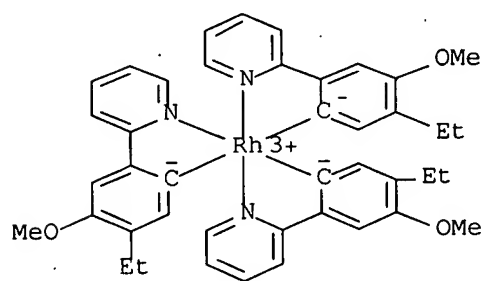
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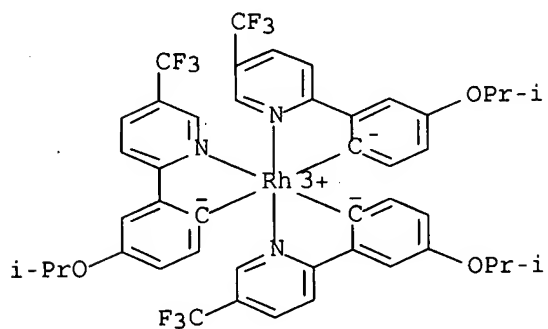
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CN Rhodium, tris[5-ethyl-4-methoxy-2-(2-pyridinyl-κN)phenyl-κC] - (9CI) (CA INDEX NAME)



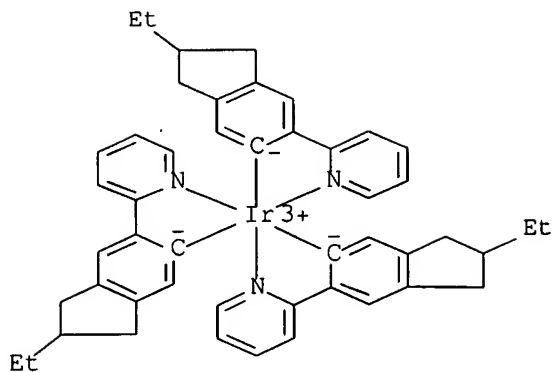
RN 405890-20-2 HCAPLUS

CN Rhodium, tris[4-(1-methylethoxy)-2-[5-(trifluoromethyl)-2-pyridinyl-κN]phenyl-κC] - (9CI) (CA INDEX NAME)



RN 405890-23-5 HCAPLUS

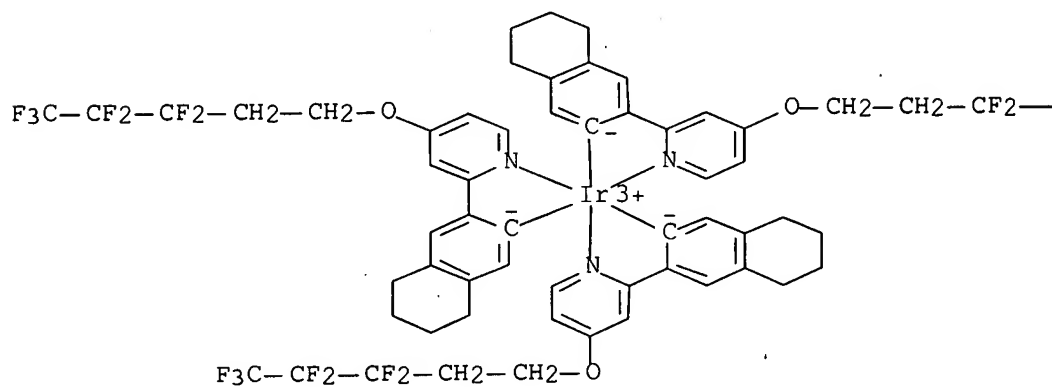
CN Iridium, tris[2-ethyl-2,3-dihydro-6-(2-pyridinyl-κN)-1H-inden-5-yl-κC] - (9CI) (CA INDEX NAME)



RN 405890-26-8 HCAPLUS

CN Iridium, tris[3-[4-[(3,3,4,4,5,5,5-heptafluoropentyl)oxy]-2-pyridinyl- κ N]-5,6,7,8-tetrahydro-2-naphthalenyl- κ C] - (9CI) (CA INDEX NAME)

PAGE 1-A

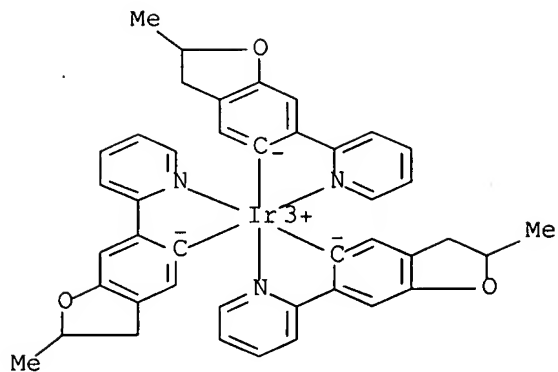


PAGE 1-B

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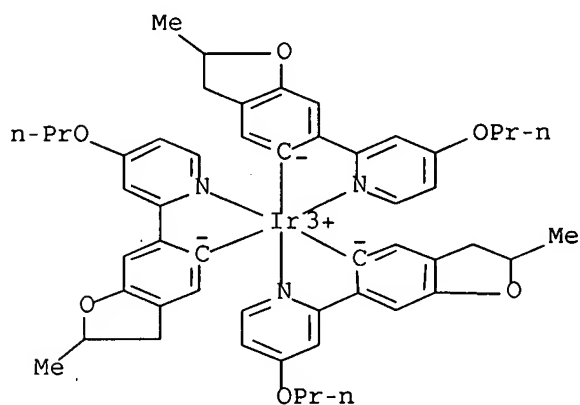
RN 405890-27-9 HCAPLUS

CN Iridium, tris[2,3-dihydro-2-methyl-6-(2-pyridinyl- κ N)-5-benzofuranyl- κ C] - (9CI) (CA INDEX NAME)



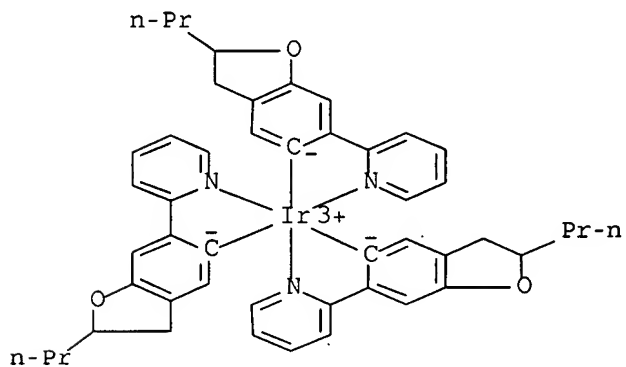
RN 405890-28-0 HCAPLUS

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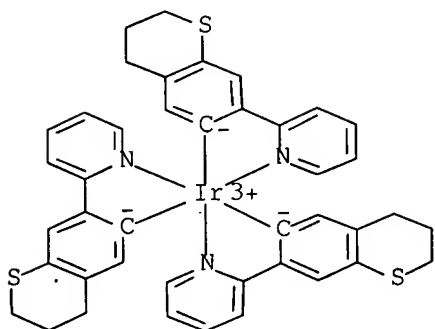
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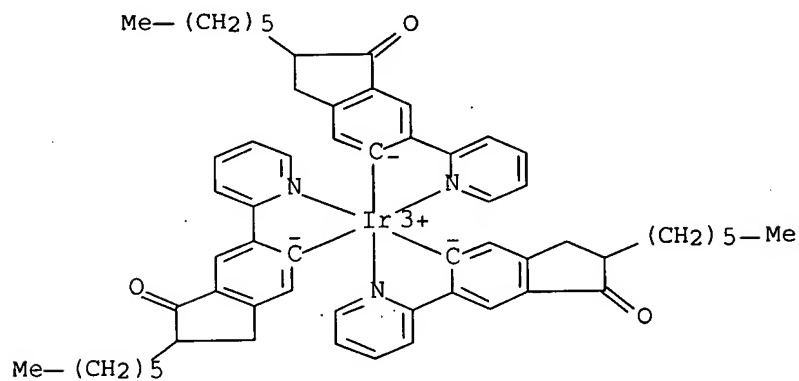
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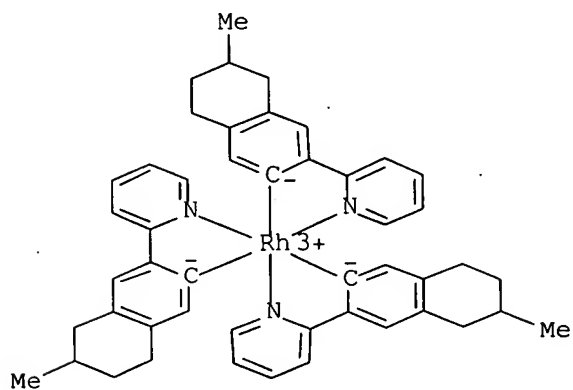
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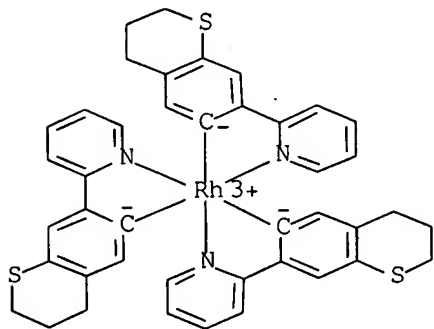
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CN Rhodium, tris[5,6,7,8-tetrahydro-6-methyl-3-(2-pyridinyl-κN)-2-naphthalenyl-κC]- (9CI) (CA INDEX NAME)



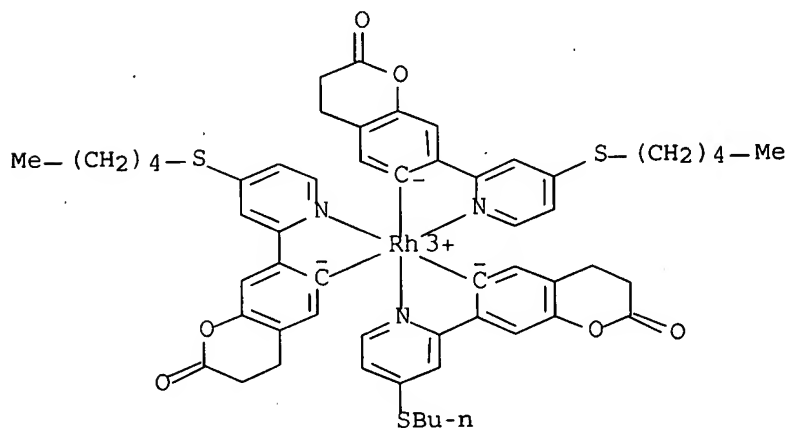
RN 405890-36-0 HCAPLUS

CN Rhodium, tris[3,4-dihydro-7-(2-pyridinyl-κN)-2H-1-benzothiopyran-6-yl-κC] - (9CI) (CA INDEX NAME)



RN 405890-37-1 HCAPLUS

CN Rhodium, tris[7-[4-(pentylthio)-2-pyridinyl-κN]-3,4-dihydro-2-oxo-2H-1-benzopyran-6-yl-κC] - (9CI) (CA INDEX NAME)

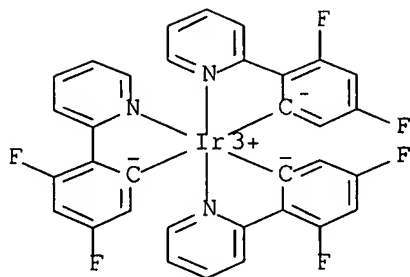


IT 387859-70-3P 405890-11-1P 405890-24-6P
405890-25-7P 405927-91-5P 405927-92-6P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(electroluminescence display device with high brightness and efficiency comprising metal coordination compound)

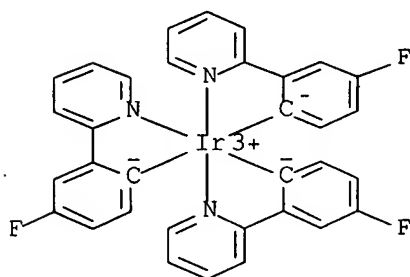
RN 387859-70-3 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC] - (9CI)
(CA INDEX NAME)



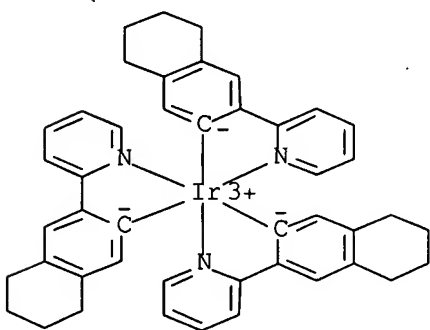
RN 405890-11-1 HCAPLUS

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(CA INDEX NAME)



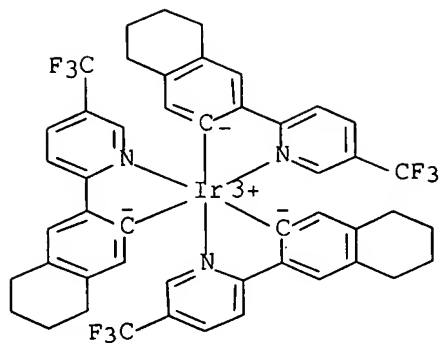
RN 405890-24-6 HCAPLUS

CN Iridium, tris[5,6,7,8-tetrahydro-3-(2-pyridinyl-κN)-2-naphthalenyl-κC] - (9CI) (CA INDEX NAME)



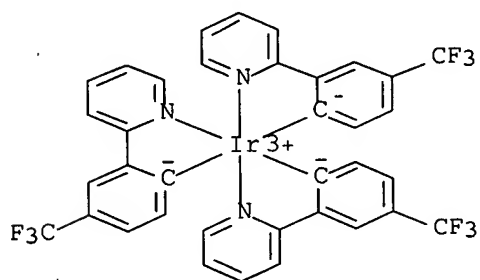
RN 405890-25-7 HCAPLUS

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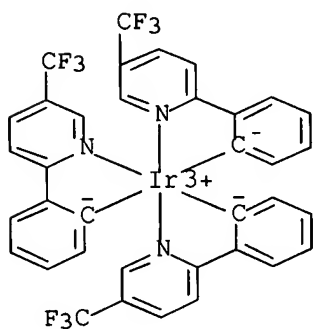
RN 405927-91-5 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)-4-(trifluoromethyl)phenyl-κC]-(9CI) (CA INDEX NAME)



RN 405927-92-6 HCAPLUS

CN Iridium, tris[2-[5-(trifluoromethyl)-2-pyridinyl-κN]phenyl-κC]-(9CI) (CA INDEX NAME)

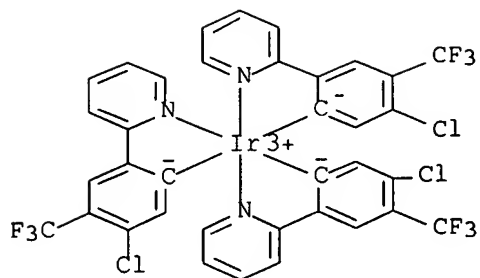


IT 405890-21-3P 405890-22-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(electroluminescence display device with high
brightness and efficiency comprising metal coordination compound)

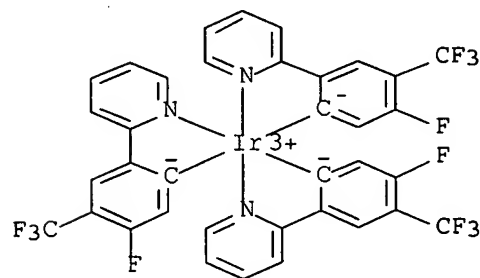
RN 405890-21-3 HCAPLUS

CN Iridium, tris[5-chloro-2-(2-pyridinyl-κN)-4-(trifluoromethyl)phenyl-κC]-(9CI) (CA INDEX NAME)



RN 405890-22-4 HCAPLUS

CN Iridium, tris[5-fluoro-2-(2-pyridinyl-κN)-4-(trifluoromethyl)phenyl-κC] - (9CI) (CA INDEX NAME)



L92 ANSWER 43 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:221136 HCAPLUS Full-text

DN 136:254380

TI Organometallic complexes as phosphorescent emitters in organic LEDs

IN Thompson, Mark E.; Djurovich, Peter; Lamansky, Sergey; Murphy, Drew; Kwong, Raymond; Abdel-Razzaq, Feras; Forrest, Stephen R.; Baldo, Marc A.; Burrows, Paul E.

PA The Trustees of Princeton University, USA; The University of Southern California

SO U.S. Pat. Appl. Publ., 77 pp., Cont.-in-part of U. S. Ser. No. 274,609, abandoned.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002034656	A1	20020321	US 2001-883734	20010618 <--
	US 6830828	B2	20041214		
	US 6097147	A	20000801	US 1998-153144	19980914 <--
	EP 1729327	A1	20061206	EP 2006-16911	20000511 <--
	R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, AL, LT, LV, MK, RO, SI				
	CN 1840607	A	20061004	CN 2005-10109631	20001129 <--
	US 2003017361	A1	20030123	US 2002-171235	20020613 <--

	US 6902830	B2	20050607		
	US 2004262576	A1	20041230	US 2004-870788	20040616 <--
	US 7001536	B2	20060221		
	JP 2005344124	A	20051215	JP 2005-241794	20050823 <--
	US 2006029829	A1	20060209	US 2005-233605	20050922 <--
PRAI	US 1998-153144	A2	19980914	<--	
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	US 1999-311126	B2	19990513	<--	
	US 1999-452346	B2	19991201	<--	
	EP 2000-932308	A3	20000511	<--	
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	JP 2001-541304	A3	20001129	<--	
	US 2001-883734	A3	20010618	<--	
	US 2002-171235	A3	20020613	<--	
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OS MARPAT 136:254380

AB Emissive layers of organic light-emitting devices are described which comprise a phosphorescent organometallic compound for enhancing the quantum efficiency of the organic light-emitting device. Preferably the emissive mol. is selected from the group of phosphorescent organometallic complexes, including cyclometallated platinum, iridium, and osmium complexes. The organic light-emitting devices optionally contain an exciton blocking layer. In particular, organic light-emitting devices with an emitter layer comprising organometallic complexes of transition metals of formula L₂MX, wherein L and X are distinct bidentate ligands and M is a metal which forms octahedral complexes, are described. A method of making a composition of the formula L₂MX is described which entails combining a bridged dimer of formula L₂M(μ-Cl)₂ML₂ with a Bronsted acid XH to make the desired organometallic complex. Display devices incorporating the light-emitting devices are also described.

IC ICM H05B0033-14

ICS C09K0011-06

INCL 428690000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 74, 76, 78

ST organometallic compd phosphorescent emitter org light emitting device

IT Electroluminescent devices

(organic; organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT Phosphorescent substances

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 7440-04-2D, Osmium, compds. with organic ligands 9003-53-6, Polystyrene 25067-59-8, Polyvinylcarbazole 57102-62-2D, derivs. 58328-31-7 58328-31-7D, derivs. 88821-71-0 94928-86-6, fac-Tris(2-phenylpyridine)iridium 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 180971-61-3 212385-75-6D, derivs. 344406-74-2D, derivs.

RL: DEV (Device component use); USES (Uses)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 337526-86-0P 337526-88-2P 337526-89-3P 337526-98-4P
343978-86-9P 343978-88-1P 343978-92-7P 343978-96-1P 343978-99-4P
344426-19-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 110077-26-4P 138736-22-8P 337526-85-9P 337526-87-1P 337526-91-7P
343978-75-6P 343978-76-7P 343978-77-8P 343978-78-9P 343978-79-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 86-55-5, 1-Naphthoic acid 91-22-5, Quinoline, reactions 95-55-6, 2-Aminophenol 98-98-6, Picolinic acid 108-86-1, Bromobenzene, reactions 110-02-1, Thiophene 110-86-1, Pyridine, reactions 123-54-6, Acetylacetone, reactions 148-24-3, 8-Hydroxyquinoline, reactions 302-01-2, Hydrazine, reactions 352-93-2, Diethyl sulfide 372-48-5, 2-Fluoropyridine 602-09-5, 2,2'-Dihydroxy-1,1'-binaphthyl 615-36-1 1126-00-7, 1-Phenylpyrazole 3117-65-5 4467-06-5, 2-(p-Tolyl)pyridine 7726-95-6, Bromine, reactions 7758-02-3, Potassium bromide, reactions 10025-83-9, Iridium trichloride 10025-99-7, Potassium tetrachloroplatinate 15635-87-7 38215-36-0 53698-49-0, 3-Methoxy-2-phenylpyridine 343978-74-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 1008-89-5P, 2-Phenylpyridine 1454-80-4P, 2,2'-Diaminobiphenyl 2436-96-6P, 2,2'-Dinitrobiphenyl 3164-18-9P, 2-(1-Naphthyl)benzoxazole 3319-99-1P, 2-(2-Thienyl)pyridine 13029-09-9P, 2,2'-Dibromobiphenyl 34243-33-9P 57175-14-1P 74866-28-7P, 2,2'-Dibromo-1,1'-binaphthyl 109306-86-7P 116563-45-2P 343978-82-5P 343978-90-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

IT 15337-84-5P 15442-57-6P, cis-Dichlorobis-(diethyl sulfide)platinum 128025-34-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

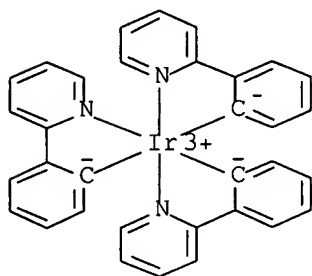
IT 94928-86-6, fac-Tris(2-phenylpyridine)iridium

RL: DEV (Device component use); USES (Uses)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



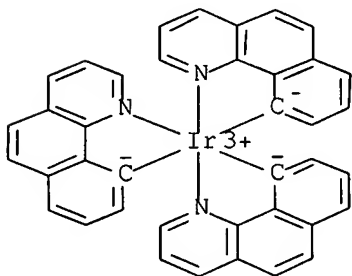
IT 337526-98-4P 344426-19-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP

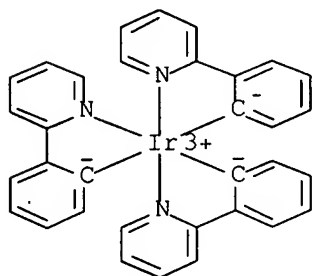
(Preparation); USES (Uses)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

RN 337526-98-4 HCAPLUS

CN Iridium, tris(benzo[h]quinolin-10-yl-κC,κN)-, (OC-6-22)- (9CI)
(CA INDEX NAME)

RN 344426-19-3 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-21)- (9CI)
(CA INDEX NAME)

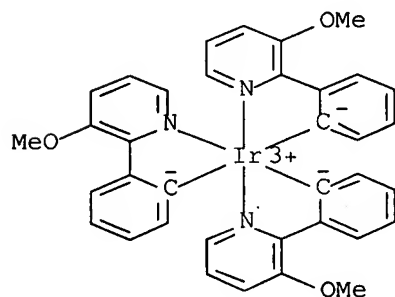
IT 343978-74-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(organometallic complexes and their preparation and organic light-emitting devices using them as phosphorescent emitters)

RN 343978-74-5 HCAPLUS

CN Iridium, tris[2-(3-methoxy-2-pyridinyl-κN)phenyl-κC]-, (OC-6-21)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====					
A. Von Zelewsky	1994	132	75	Coord. Chem. Rev.	
A. Von Zelewsky	1993	32	4585	Inorg. Chem.	
Abramovitch, R	1964		2175	J. Chem. Soc.	HCAPLUS
Adachi	1990	56	799	Appl. Phys. Lett	HCAPLUS
Adachi	1988	27	L269	Jpn. J. Appl. Phys	HCAPLUS
Adachi, C	2000	87	8049	J. Appl. Phys.	HCAPLUS
Anon	1991			JP 3289090	
Anon	1996			EP 0704915	HCAPLUS
Anon	1996			WO 9619792	
Anon	1997			WO 9733296	HCAPLUS
Anon	1997			WO 9748115	HCAPLUS
Anon	1997			WO 9748139	HCAPLUS
Anon	1998			WO 9850989	HCAPLUS
Anon	1998			WO 9858037	HCAPLUS
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Anon	1999			Chemistry.ORG, Inter	
Ayyagari	1984			US 4455506 A	
Baldo	2000			US 6097147 A	HCAPLUS
Baldo	2000	43	750	Nature	
Baldo, M	1999	75	4	Applied Physics Lett	HCAPLUS
Baldo, M	1998	395	151	Nature	HCAPLUS
Baldo, M	2000	403	750	Nature	HCAPLUS
Baldo, M	1999		14422	Physical Review B	HCAPLUS
Baldo, M	1999	71	2095	Pure Appl. Chem.	HCAPLUS
Barton	1995			US 5439794 A	HCAPLUS
Berg-Brennan	1996	35	3719	Inorg. Chem.	HCAPLUS
Boerner	1998			US 5756224 A	HCAPLUS
Bonafede, S	1986	90	3836	J. Phys. Chem.	HCAPLUS
Bulovic	1998			US 5834893 A	HCAPLUS
Bulovic	2000			US 6046543 A	HCAPLUS
Bulovic	1998	287	455	Chem. Phys. Lett.	HCAPLUS
Bulovic	1999		317	Chemical Physics Let	HCAPLUS
Burrows	1999			US 5917280 A	HCAPLUS
Burrows	1999			US 5981306 A	HCAPLUS
Burrows	2000			US 6013538 A	HCAPLUS
Burrows	2000			US 6048630 A	
Burrows	1996	69	2959	Appl. Phys. Lett.	HCAPLUS
Burrows, P	1994	65	2922	Appl. Phys. Lett	HCAPLUS
Butovic	1996	380	29	Nature	
Calogero, G	1995	34	541	Inorg. Chem.	HCAPLUS
Ch. Cornioley-Deuschel	1987	26	3354	Inorg. Chem.	
Chassot, L	1983	66	2443	Helv. Chim. Acta.	HCAPLUS
Chassot, L	1984	23	4249	Inorg. Chem.	HCAPLUS
Chassot, L	1987	26	2814	Inorg. Chem.	HCAPLUS
Chassot, L	1986	108	6084	J. Am. Chem. Soc.	HCAPLUS
Chen, C	1997	125	1	Macromolecular Sympo	
Chen, C	1997	125	49	Macromolecules Sympo	
Cleave	1999	11	285	Adv. Mater.	HCAPLUS
Cockburn, B	1973	4	404	Journal of the Chemi	
D.F. O'Brien	1999	74	442	Applied Physics Lett	
Dartnall, H	1983	220	115	Proc. Roy. Soc. B	HCAPLUS
Demas, J	1991	63	829	Analytical Chemistry	
Depp, S	1993		90	Scientific American	
Di G Marco	1998	70	5019	Anal. Chem. Dec.	

Dimarco, G	1996	8	576	Advanced Materials	HCAPLUS
Dirr, S	1997		778	SID 97 Digest	
Egusa	1994			US 5294810 A	HCAPLUS
Epstein	1997			US 5663573 A	HCAPLUS
Evans, J	1943	2	517	Org. Synth	
Forrest	1996			US 5554220 A	HCAPLUS
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Forrest	1999			US 5986268 A	HCAPLUS
Forrest	1999			US 5998803 A	HCAPLUS
Forrest	2000			US 6091195 A	HCAPLUS
Forrest	2000			US 6125226 A	HCAPLUS
Forrest	2002			US 6337102 B1	HCAPLUS
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Forrest, S	1997	97	1793	Chemical Reviews	HCAPLUS
Forrest, S	1995			Laser Focus World	
Franke	2000			US 6013429 A	HCAPLUS
Friend	1993			US 5247190 A	
Friend	1997			US 5698048 A	HCAPLUS
Friend	1999	397	121	Nature	HCAPLUS
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Garbuzov, D	1996	249	433	Chemical Physics Lett	HCAPLUS
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Gary Miessler	1999	2	1	Inorganic Chemistry	
Gary Miessler	1999	2	1	Inorganic Chemistry	
Gianini, M	1997	36	6094	Inorg. Chem.	HCAPLUS
Gilman, H	1949	71	1870	J. Am. Chem. Soc.	HCAPLUS
Gu	1998			US 5844363 A	HCAPLUS
Gu, G	1997	22	396	Optics Letters	HCAPLUS
Haase	1999			US 5989738 A	
Hey, D	1955		3963	J. Chem. Soc.	HCAPLUS
Hill, I	1999	86	2116	Journal of Applied P	HCAPLUS
Holmlin, R	1996	118	5236	J. Am. Chem. Soc.	HCAPLUS
Hoshino	1996	69	224	Appl. Phys. Lett.	HCAPLUS
Hosokawa	1995	67	3853	Appl. Phys. Lett	HCAPLUS
Hung, L	1997	70	152	Appl. Phys. Lett.	HCAPLUS
Johnson	1995	67	175	Pure Appl. Chem.	HCAPLUS
Johnson, C	1983	105	1795	Journal of the Ameri	HCAPLUS
Jolliet, P	1996	35	4883	Inorg. Chem.	HCAPLUS
Kathirgamanathan	2003			US 6524727 B1	HCAPLUS
Kauffman, G	1957	6	211	Inorg. Synth.	
Kaufmann, T	1983	116	992	Chem. Ber.	
Kido	1998			US 5834130 A	HCAPLUS
Kido, J	1994	65	2124	Appl Phys. Lett	HCAPLUS
Kido, J	1998	73	2721	Applied Physics Lett	HCAPLUS
Kido, J	1990		657	Chemistry Letters	HCAPLUS
Kido, J	1993	192	30	J. Alloys and Compou	HCAPLUS
Kido, J	1996	35	L394	Jpn. J. Appl. Phys.	HCAPLUS
King, K	1985	107	1431	J. Am. Chem. Soc.	HCAPLUS
Kirlin	1998			US 5840897 A	HCAPLUS
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Kunugi, Y	1998	120	589	J. Am. Chem. Soc.	HCAPLUS
Lamansky	1999			ACS National Meeting	

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Lee	2000	77	2280	Appl. Phys. Lett.	HCAPLUS
Lee, J	1996	69	1686	Appl. Phys. Lett.	HCAPLUS
Lee, J	1997	9	1710	Chem. Mater.	HCAPLUS
Ma, Y	1999	11	852	Advanced Materials	HCAPLUS
Ma, Y	1998	94	245	Synthetic Metals	HCAPLUS
Macleod, H	1969		94	Thin Film Optical Fi	
Maestri, M	1992	17	1	Adv. Photochem.	HCAPLUS
Maestri, M	1985	122	375	Chem. Phys. Lett.	HCAPLUS
Maestri, M	1988	71	1053	Helv. Chim. Acta.	HCAPLUS
Mitsumori	1988			US 4758765 A	
Moore, R	1958	23	1504	J. Org. Chem.	HCAPLUS
Morikawa, M	1990		1041	The 51Autumn Meeting	
Namiki	1995			US 5457565 A	HCAPLUS
Newkome, G	1986	86	451	Chem. Rev.	HCAPLUS
Nishikitani	1993			US 5231329 A	HCAPLUS
Omae, I	1986			Organometallic Intra	
Perry	1990			US 4950950 A	HCAPLUS
Ryabov, A	1990	90	403	Chem. Rev.	HCAPLUS
Schewe, P	1999			The American Institu	
Shen	1999			US 5932895 A	HCAPLUS
Shi	1996			US 5504183 A	HCAPLUS
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Shioya	2000			US 6091382 A	
Shoustikov, A	1998	4	3	IEEE Journal of Spec	HCAPLUS
Shoustikov, A	1997	91	217	Synth. Met.	HCAPLUS
Skotheim	1992			US 5128587 A	HCAPLUS
Takaya, H	1989	67	20	Org. Synth.	HCAPLUS
Tamano	1998			US 5811834 A	HCAPLUS
Tang	1988			US 4769292 A	HCAPLUS
Tang	1994			US 5294870 A	HCAPLUS
Tang, C	1987	51	913	Appl. Phys. Lett.	HCAPLUS
Tang, C	1989	65	3610	J. Appl. Phys.	HCAPLUS
Tang, C	2001		18	SPIE's OE Magazine	
Thompson	1998			US 5811833 A	HCAPLUS
Thompson	1999			US 5861219 A	HCAPLUS
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Thompson	2000			US 6045930 A	
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Tsutsui, T	1991		437	Photochemical Proces	HCAPLUS
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VanSlyke	1985			US 4539507 A	
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Vinodgopal, K	1995	99	10883	J. Phys. Chem.	HCAPLUS
Whitlock	1993	32	1921	Optical Eng.	HCAPLUS
Wiedenhofer, H	1995	99	13385	J. Phys. Chem.	HCAPLUS
Wittmann, H	1994	101	2693	J. Chem. Phys.	HCAPLUS
Wu, C	1996	69	3117	Appl. Phys. Lett	HCAPLUS
Yamamoto	1996			US 5540999 A	HCAPLUS
Yoo, D	1997	85	1425	Synthetic Metals	HCAPLUS
Zollinger, H	1991	Secon		Color Chemistry	

L92 ANSWER 44 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2002:158262 HCAPLUS Full-text
 DN 136:207516
 TI Light-emitting element and iridium complex

IN Igarashi, Tatsuya; Ise, Toshihiro; Miyashita, Yousuke; Fujimura, Hidetoshi; Okada, Hisashi; Mishima, Masayuki; Qiu, Xuepeng
 PA Fuji Photo Film Co., Ltd., Japan
 SO U.S. Pat. Appl. Publ., 18 pp.
 CODEN: USXXCO

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002024293	A1	20020228	US 2001-905996	20010717 <--
	JP 2002117978	A	20020419	JP 2001-189539	20010622 <--
PRAI	JP 2000-216338	A	20000717	<--	

OS MARPAT 136:207516

AB Light-emitting elements are described which have an external quantum efficiency of $\geq 5\%$ and a light emission maximum wavelength ≤ 500 nm; devices incorporating phosphorescent materials having phosphorescence quantum yields of $\geq 70\%$ at 20° are also described. Preferably the devices include ≥ 1 iridium complex with ≥ 1 ligand selected from 2-(4-fluorophenyl)pyridine or its derivs. Iridium complexes with ≥ 1 ligand selected from 2-(4-fluorophenyl)pyridine or its derivs., including 2-(2,4-difluorophenyl)pyridine and its derivs., are also described.

IC ICM H01J0001-62
 ICS C07F0015-00

INCL 313483000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76, 78

IT Electroluminescent devices
 Phosphorescent substances
 (light-emitting elements and iridium complexes of fluorophenylpyridine derivs.)

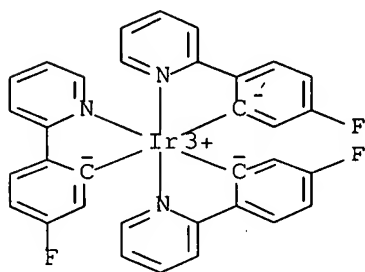
IT 370878-69-6P 376367-95-2P 391611-76-0P
 391665-84-2P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (light-emitting elements and iridium complexes of fluorophenylpyridine derivs.)

IT 370878-69-6P 391611-76-0P 391665-84-2P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (light-emitting elements and iridium complexes of fluorophenylpyridine derivs.)

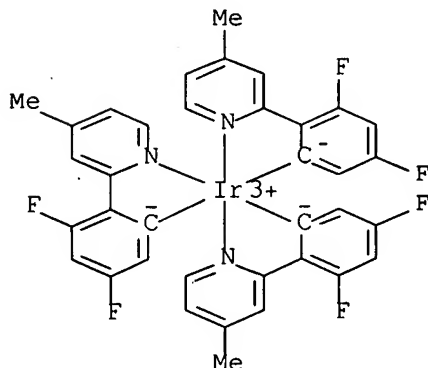
RN 370878-69-6 HCAPLUS

CN Iridium, tris[5-fluoro-2-(2-pyridinyl- κ N)phenyl- κ C]-, (OC-6-22)- (9CI) (CA INDEX NAME)



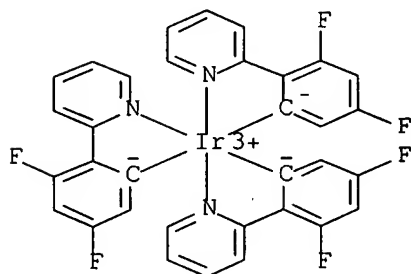
RN 391611-76-0 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(4-methyl-2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)



RN 391665-84-2 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI) (CA INDEX NAME)



L92 ANSWER 45 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:143099 HCAPLUS Full-text

DN 136:191506

TI Organometallic compounds and emission-shifting organic electrophosphorescence

IN Lamansky, Sergey; Thompson, Mark E.; Adamovich, Vadim; Djurovich, Peter L.; Adachi, Chihaya; Baldo, Marc A.; Forrest, Stephen R.; Kwong, Raymond C.

PA The Trustees of Princeton University, USA; The University of Southern California; Universal Display Corporation

SO PCT Int. Appl., 155 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002015645	A1	20020221	WO 2001-US25108	20010810 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 6911271 B1 20050628 US 2000-637766 20000811 <--
AU 200183274 A 20020225 AU 2001-83274 20010810 <--
EP 1325671 A1 20030709 EP 2001-962061 20010810 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004506305 T 20040226 JP 2002-519380 20010810 <--
TW 593625 B 20040621 TW 2001-90119946 20010813 <--
IN 2003DN00157 A 20070316 IN 2003-DN157 20030213 <--

PRAI US 2000-637766 A 20000811 <--
US 2001-283814P P 20010413 <--
WO 2001-US25108 W 20010810 <--

AB Organic light-emitting devices including an emissive layer comprising an organometallic compound are described in which the organometallic compound comprises a heavy transition metal (e.g., Os, Ir, Pt, or Au) that produces an efficient phosphorescent emission at room temperature from a mixture of metal-to-ligand charge transfer and π - π^* ligand states; ≥ 1 mono-anionic bidentate carbon-coordination ligand bound to the heavy transition metal, the ligand(s) being substituted with an electron-donating substituent and/or an electron-withdrawing substituent which shifts the emission, relative to the unsubstituted ligand, to either the blue, green, or red region of the visible spectrum; and ≥ 1 non-monoanionic bidentate carbon-coordination ligand bound to the heavy transition metal which ligand(s) causes the emission to have a well defined vibronic structure. The organometallic compds. are also claimed.

IC ICM H05B0033-14
ICS C09K0011-06; C07D0213-02; C07D0231-10; C07D0241-10;
C07D0333-52

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76, 78

ST org light emitting device emission shifting organometallic complex

IT Luminescent substances

Phosphorescent substances
(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT Electroluminescent devices

(organic; organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 147-14-8, Copper phthalocyanine 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 31248-39-2
50926-11-9, Indium tin oxide 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 65181-78-4, TPD 94928-86-6, fac-Tris(2-phenylpyridine)iridium 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylamino]biphenyl 146162-54-1
RL: DEV (Device component use); USES (Uses)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 40243-13-8P 345659-08-7P 376367-93-0P 376367-95-2P
391665-84-2P 400653-85-2P 400653-86-3P 400653-87-4P
400653-88-5P 400653-89-6P 400653-90-9P 400653-91-0P 400653-92-1P
400653-93-2P 400653-94-3P 400653-95-4P 400653-96-5P 400653-97-6P
400653-98-7P 400654-01-5P 400654-02-6P 400654-04-8P 400654-05-9P
400654-06-0P 400654-08-2P 400654-10-6P 400654-12-8P 400654-13-9P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 88821-71-0 125051-45-8 400654-15-1 400655-42-7

RL: PRP (Properties)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 56-40-6, Glycine, reactions 98-97-5, Pyrazinecarboxylic acid 98-98-6, Picolinic acid 109-04-6, 2-Bromopyridine 110-86-1, Pyridine, reactions 123-54-6, 2,4-Pentadione, reactions 151-50-8, Potassium cyanide 366-18-7, 2,2'-Bipyridine 540-72-7, Sodium thiocyanide 603-35-0, Triphenylphosphine, reactions 939-23-1, 4-Phenylpyridine 1663-45-2, 1,2-Bis(diphenylphosphino)ethane 7188-38-7, tert-Butylisocyanide 10025-83-9, Iridium trichloride 15635-87-7, Iridium tris(acetylacetonate) 18583-60-3, Potassium tris(pyrazolyl)borate 40243-18-3 99646-28-3 125081-56-3 144025-03-6, 2,4-Difluorophenylboronic acid 155475-93-7 158333-96-1 400653-99-8 400654-03-7 400654-07-1 400654-09-3 400654-11-7 400654-14-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

IT 391604-55-0P 391611-77-1P 400654-00-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

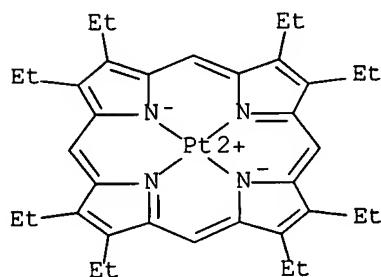
IT 31248-39-2 94928-86-6, fac-Tris(2-phenylpyridine)iridium

RL: DEV (Device component use); USES (Uses)

(organic light-emitting devices using emission shifting organometallic complexes and the complexes)

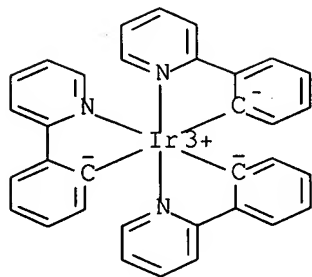
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-kN21,kN22,kN23,kN24]-, (SP-4-1)- (CA INDEX NAME)



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)

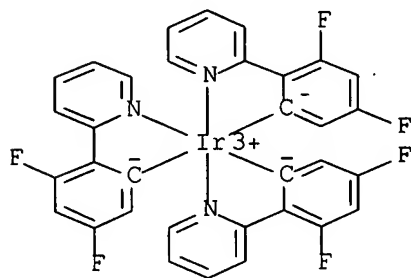


IT 391665-84-2P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN
(Synthetic preparation); PREP (Preparation); USES (Uses)
(organic light-emitting devices using emission shifting
organometallic complexes and the complexes)

RN 391665-84-2 HCAPLUS

CN Iridium, tris[3,5-difluoro-2-(2-pyridinyl-κN)phenyl-κC]-,
(OC-6-22) - (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baldo	1999	75	4	Applied Physics Lett	HCAPLUS
Baldo	1998	395	151	Nature	HCAPLUS
Baldo	2000	403	750	Nature	HCAPLUS
Von Zelewsky	1994	132	75	Coordination Chemist	HCAPLUS

L92 ANSWER 46 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:66774 HCAPLUS Full-text

DN 136:126314

TI Luminescence device

IN Tsuboyama, Akira; Okada, Shinjiro; Takiguchi, Takao; Moriyama, Takashi;
Kamatani, Jun

PA Canon Kabushiki Kaisha, Japan

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1175129	A1	20020123	EP 2001-117367	20010718 <--
	EP 1175129	B1	20070328		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, CY, TR

JP 2002043056 A 20020208 JP 2000-218321 20000719 <--
US 2002038860 A1 20020404 US 2001-904505 20010716 <--
US 6897913 B2 20050524
AT 358408 T 20070415 AT 2001-117367 20010718 <--

PRAI JP 2000-218321 A 20000719 <--

AB Electroluminescent devices are described which comprise a pair of electrodes sandwiching an active layer comprising a mixture of a liquid crystal compound with a phosphorescent compound. The liquid crystal compound may have a discotic phase or a smectic phase; the phosphorescent compound preferably has a planar mol. skeleton. The liquid crystal may also be phosphorescent. The liquid crystals aid carrier transport.

IC ICM H05B0033-14

ICS H01L0051-20; C09K0019-54

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 75, 76

ST electroluminescent device phosphorescent
compd liq crystal host

IT Liquid crystals

(discotic; electroluminescent devices using
phosphorescent compds. in liquid crystal hosts)

IT Electroluminescent devices

Liquid crystals

Phosphorescent substances

(electroluminescent devices using
phosphorescent compds. in liquid crystal hosts)

IT Liquid crystals

(smectic; electroluminescent devices using
phosphorescent compds. in liquid crystal hosts)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5,
2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 7429-90-5, Aluminum, uses
31248-39-2, Platinum octaethylporphyrin 50926-11-9, Indium tin
oxide 70351-86-9 94928-86-6 123847-85-8, α -NPD
219683-04-2

RL: DEV (Device component use); USES (Uses)

(electroluminescent devices using
phosphorescent compds. in liquid crystal hosts)

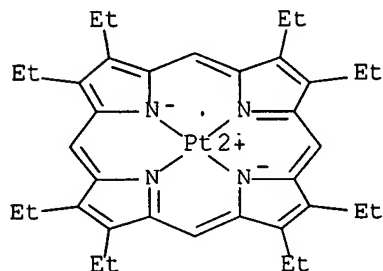
IT 31248-39-2, Platinum octaethylporphyrin 94928-86-6

RL: DEV (Device component use); USES (Uses)

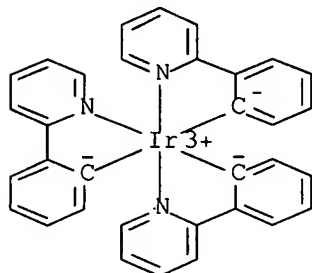
(electroluminescent devices using
phosphorescent compds. in liquid crystal hosts)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Dainippon Printing Co L	1998			EP 0864631 A	HCAPLUS
Dainippon Printing Co L	1999			EP 0915144 A	HCAPLUS
Dainippon Printing Co L	2000			JP 2000068052 A	HCAPLUS
Funada, F	1985			US 4556287 A	
Gen Electric Co Plc	1986			EP 0186970 A	HCAPLUS
Merck Patent Gmbh	1998			DE 19809944 A	HCAPLUS

L92 ANSWER 47 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:886707 HCAPLUS Full-text

DN 136:29052

TI Phosphorescent organic light emitting devices

IN Adachi, Chihaya; Baldo, Marc A.; Forrest, Stephen R.

PA The Trustees of Princeton University, USA

SO PCT Int. Appl., 61 pp.

CODEN: PIXXD2

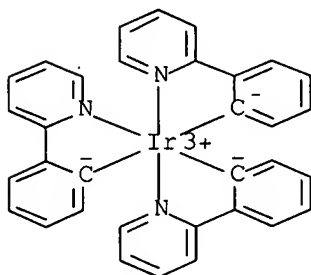
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001093642	A1	20011206	WO 2001-US17370	20010529 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6645645	B1	20031111	US 2000-629335	20000801 <--
	TW 237906	B	20050811	TW 2001-90112918	20010529 <--
	US 2004100189	A1	20040527	US 2003-698233	20031031 <--
PRAI	US 2000-207330P	P	20000530	<--	
	US 2000-629335	A	20000801	<--	
OS	MARPAT 136:29052				

- AB Electroluminescent devices are described which comprise an emissive layer comprising a charge-carrying (e.g., electron-transporting) host material doped with a phosphorescent material having a triplet excited state with a triplet energy that is less than the triplet state energy of the lowest triplet excited state of the charge-carrying host material. Methods of fabricating the devices including codeposition of the dopant and the charge-carrying host are also described.
- IC ICM H05B0033-14
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
- ST phosphorescent org light emitting device
- IT Electroluminescent devices
(organic; phosphorescent organic light-emitting devices and their fabrication)
- IT Semiconductor device fabrication
(phosphorescent organic light-emitting devices and their fabrication)
- IT 94928-86-6
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(phosphorescent organic light-emitting devices and their fabrication)
- IT 2085-33-8, Tris(8-hydroxyquinolino)aluminum 3411-95-8D, 2-(2'-Hydroxyphenyl)benzothiazole, derivs., metal compds. 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10'-phenanthroline 16152-10-6 37271-44-6 50926-11-9, Indium tin oxide 91650-87-2 105465-14-3 123847-85-8, NPD 138372-67-5 342651-69-8
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(phosphorescent organic light-emitting devices and their fabrication)
- IT 94928-86-6
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(phosphorescent organic light-emitting devices and their fabrication)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baldo	1999	75	4	Applied Physics Lett	HCAPLUS

Egusa | 1994 | | US 5294810 A | HCAPLUS

L92 ANSWER 48 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:814359 HCAPLUS Full-text

DN 135:350351

TI Organic electroluminescent device

IN Sato, Yoshiharu; Sato, Hideki; Ichinosawa, Akiko

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

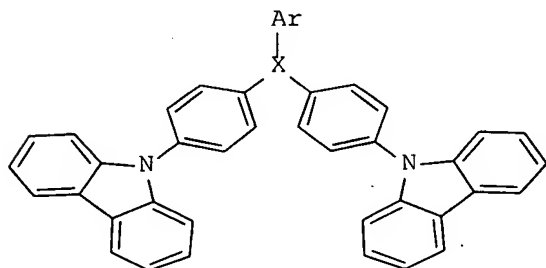
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001313179	A	20011109	JP 2000-131992	20000501 <--
PRAI	JP 2000-131992		20000501	<--	
OS	MARPAT 135:350351				
GI					



AB The invention relates to an organic electroluminescent device, that utilizes phosphorescence as a light source, comprising the compound represented by I [carbazolyl and phenylene groups may have substituted groups; X = trivalent group; and Ar = aromatic hydrocarbon and heterocyclic groups] and a metalorg. complex comprising a metal element selected from Ru, Rh, Pd, Ag, Re, Os, Ir, Pt, and Au.

IC ICM H05B0033-14

ICS C09K0011-06; H05B0033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST phenylcarbazole deriv metalorg complex phosphorescence org electroluminescent device

IT Electroluminescent devices

Phosphorescence

Phosphorescent substances

(phosphorescence-based organic electroluminescent device)

IT 2085-33-8, Al 8q 50926-11-9, ITO 123847-85-8, 4,4'-Bis[N-[1-naphthyl]-N-phenylamino]biphenyl 157077-25-3, 160780-82-5

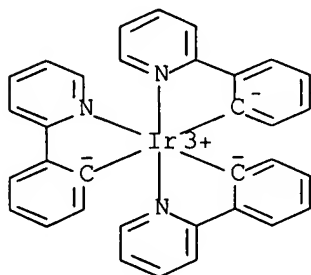
RL: DEV (Device component use); USES (Uses)

(phosphorescence-based organic electroluminescent device)

IT 94928-86-6, Tris(2-phenylpyridine)iridium

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(phosphorescence-based organic electroluminescent device)
 IT 94928-86-6, Tris(2-phenylpyridine)iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (phosphorescence-based organic electroluminescent device)
 RN 94928-86-6 HCAPLUS
 CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



L92 ANSWER 49 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
 AN 2001:814358 HCAPLUS Full-text
 DN 135:350350
 TI Organic electroluminescent device
 IN Watanabe, Terukazu; Kawami, Nobu; Wakimoto, Takeo
 PA Pioneer Electronic Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001313178	A	20011109	JP 2000-130694	20000428 <--
	US 2002034655	A1	20020321	US 2001-844679	20010430 <--
PRAI	JP 2000-130694	A	20000428	<--	
AB	The invention relates to a phosphorescence-based organic electroluminescent device comprising 0.5-8 % tris(2-phenylpyridine)iridium as a phosphorescent dopant in a host mainly composed of carbazole derivs., such as 4,4'-dicarbazolebiphenyl, and 4,4',4''-tris(N-dicarbazolyl)triphenylamine.				
IC	ICM H05B0033-14 ICS C09K0011-06; H05B0033-22				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)				
ST	phosphorescence org electroluminescent device carbazole trisphenylpyridine iridium				
IT	Phosphorescent substances (electro-; phosphorescence-based organic electroluminescent device)				
IT	Electroluminescent devices Phosphorescence (phosphorescence-based organic electroluminescent device)				
IT	2085-33-8, A1 8q 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-				

phenanthroline 7429-90-5, Aluminum, uses 12057-24-8, Lithium oxide (li2o), uses 50926-11-9, ITO 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 123847-85-8, 4,4'-Bis[N-[1-naphthyl]-N-phenylamino]biphenyl 139092-78-7, 4,4',4'''-Tris[N-carbazolyl]triphenylamine

RL: DEV (Device component use); USES (Uses)
(phosphorescence-based organic electroluminescent device)

IT 94928-86-6, Tris[2-phenylpyridine]iridium

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(phosphorescence-based organic electroluminescent device)

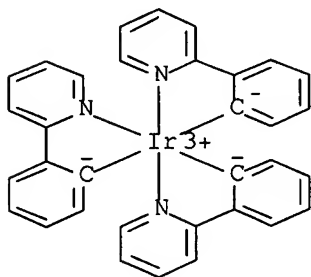
IT 94928-86-6, Tris[2-phenylpyridine]iridium

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(phosphorescence-based organic electroluminescent device)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



L92 ANSWER 50 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:814357 HCAPLUS Full-text

DN 135:350349

TI Organic electroluminescent device

IN Watanabe, Terukazu; Kawami, Nobu; Wakimoto, Takeo

PA Pioneer Electronic Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001313177	A	20011109	JP 2000-130693	20000428 <--
	US 2002022149	A1	20020221	US 2001-842633	20010427 <--
PRAI	JP 2000-130693	A	20000428	<--	
OS	MARPAT 135:350349				

AB The invention relates to a phosphorescence based organic electroluminescent device comprising an anode, an organic hole-injection layer in contact with the anode, an organic electroluminescent layer containing a phosphorescent substance, an organic electron-transport layer, and a cathode, wherein the hole-injection layer comprises a porphyrin compound, including copper phthalocyanine.

IC ICM H05B0033-14
ICS C09K0011-06; H05B0033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST org electroluminescent device phosphorescence
copper phthalocyanine

IT Electroluminescent devices
Phosphorescence
Phosphorescent substances
(phosphorescence based organic electroluminescent device)

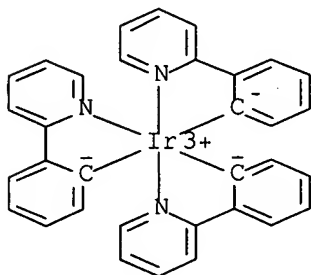
IT 147-14-8, Copper phthalocyanine 2085-33-8, Al 8q 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 7429-90-5, Aluminum, uses 12057-24-8, Lithium oxide (li2o), uses 50926-11-9, ITO 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl 123847-85-8, 4,4'-Bis[N-[1-naphthyl]-n-phenylaminol]biphenyl
RL: DEV (Device component use); USES (Uses)
(phosphorescence based organic electroluminescent device)

IT 94928-86-6, Tris[2-phenylpyridine]iridium
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(phosphorescence based organic electroluminescent device)

IT 94928-86-6, Tris[2-phenylpyridine]iridium
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(phosphorescence based organic electroluminescent device)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



L92 ANSWER 51 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:730908 HCAPLUS Full-text

DN 135:280172

TI Organic electroluminescence device

IN Hosokawa, Chishio

PA Idemitsu Kosan Co., Ltd., Japan

SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

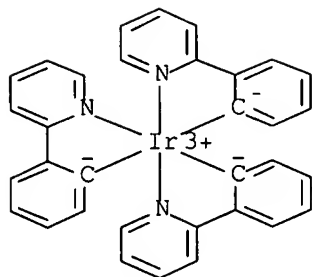
APPLICATION NO.

DATE

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PI  WO 2001072927      A1      20011004      WO 2001-JP2454      20010327 <--
    W:  CN, IN, JP, KR
    RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
        PT, SE, TR
    US 2002045061      A1      20020418      US 2001-816415      20010326 <--
    US 6660410          B2      20031209
    TW 532048          B        20030511      TW 2001-90107093      20010326 <--
    EP 1205527          A1      20020515      EP 2001-915817      20010327 <--
    R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
        IE, FI, CY, TR
    CN 1694591          A        20051109      CN 2005-10065978      20010327 <--
    US 2005222429      A1      20051006      US 2003-683435      20031014 <--
    US 6979414          B2      20051227
    US 2006046098      A1      20060302      US 2005-245092      20051007 <--
    US 7226546          B2      20070605
PRAI JP 2000-87622      A        20000327 <--
    US 2001-816415      A1      20010326 <--
    CN 2001-800689      A3      20010327 <--
    WO 2001-JP2454      W        20010327 <--
    US 2003-683435      A1      20031014 <--
OS  MARPAT 135:280172
AB  An organic electroluminescence device including an anode layer, a cathode
    layer, and an organic luminescent layer held between the anode and cathode
    layers. The organic luminescent layer contains a carbazole derivative the
    glass transition temperature of which is >110° and a phosphorescent dopant.
    Even under a room-temperature condition, the triplet exciton state of the
    carbazole derivative can be used, the life of the organic electroluminescence
    device is practical, and the heat resistance thereof is excellent.
IC  ICM C09K0011-06
    ICS H05B0033-14
CC  73-5 (Optical, Electron, and Mass Spectroscopy and Other Related
    Properties)
ST  org electroluminescence device
IT  Dopants
    Exciton
    Glass transition temperature
    Thermal resistance
    (organic electroluminescence device)
IT  2085-33-8, Tris(8-quinolinolato)aluminum 4733-39-5, 2,9-Dimethyl-4,7-
    diphenyl-1,10-phenanthroline 65181-78-4, TPD 123847-85-8, α-NPD
    362682-10-8
    RL: DEV (Device component use); USES (Uses)
    (organic electroluminescence device)
IT  94928-86-6, Tris(2-phenylpyridine)iridium
    RL: MOA (Modifier or additive use); USES (Uses)
    (organic electroluminescence device)
IT  94928-86-6, Tris(2-phenylpyridine)iridium
    RL: MOA (Modifier or additive use); USES (Uses)
    (organic electroluminescence device)
RN  94928-86-6 HCAPLUS
CN  Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22)- (9CI)
    (CA INDEX NAME)

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RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baldo, M	1999	75	4	Applied Physics Lett	HCAPLUS
Chisso Corporation	2000			JP 200044519 A	
Idemitsu Kosan Co Ltd	1997			JP 09310066 A	HCAPLUS
Junji, K				JP 11233262 A	HCAPLUS
Junji, K				CN 1238655 A	HCAPLUS
Junji, K				KR 99072663 A	
Junji, K	1999			EP 936844 A2	HCAPLUS
Minolta Co Ltd	2000			JP 200063335 A	
Mitsubishi Chemical Cor	1997			JP 09298088 A	HCAPLUS
Mitsubishi Chemical Cor	1998			JP 10316658 A	HCAPLUS
Mitsubishi Chemical Cor	2000			JP 200021572 A	
Mitsui Toatsu Chem Inc	1991			JP 03289090 A	HCAPLUS
Pioneer Electronic Corp				JP 790256 A	
Pioneer Electronic Corp	1996			US 5487953 A	HCAPLUS
Sumitomo Chemical Compa				JP 05263073 A	HCAPLUS
Sumitomo Chemical Compa				JP 61972 A	
Sumitomo Chemical Compa	1992			EP 517542 A1	HCAPLUS
Taiho Ind Co Ltd	1999			JP 11329737 A	HCAPLUS
Toray Industries Inc	1996			JP 83547 A	
Xerox Corporation				JP 10312073 A	HCAPLUS
Xerox Corporation	1999			US 5891587 A	HCAPLUS

L92 ANSWER 52 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:729805 HCAPLUS Full-text

DN 135:295943

TI Polymeric fluorescent substance, production method thereof, and polymer light-emitting device using the same

IN Doi, Shuji; Tsubata, Yoshiaki

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 38 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1138746	A1	20011004	EP 2001-302966	20010329 <--
	EP 1138746	B1	20040526		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001342459	A	20011214	JP 2001-100621	20010330 <--
	US 2002027623	A1	20020307	US 2001-820946	20010330 <--
	US 6696180	B2	20040224		

PRAI JP 2000-98717 A 20000331 <--

AB Polymeric fluorescent substances are described which have a polystyrene-reduced number-average mol. weight of 103 to 108, and comprises in the main chain ≥ 1 repeating units described by the general formula -Ar1-(CR1:CR2)n- (Ar1 = a C6-60 arylene group, a C4-60 heterocyclic group, or a group comprising a metal complex having, as a ligand, ≥ 1 C4-60 organic compds.; Ar1 may have ≥ 1 substituents; each of R1 and R2 = independently selected H, C1-20 alkyl, C6-60 aryl, C4-60 heterocyclic, and cyano groups; and $n = 0$ or 1) wherein 0.05-10 mol% of all repeating units in the polymeric fluorescent substance have branching polymeric chains. Methods for producing the materials are also described which entail reacting appropriate precursors. Light-emitting devices employing the substances and displays and light sources employing the devices are also described.

ICM C09K0011-06

ICS C08G0061-02

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38, 76

ST polymeric fluorescent substance prodn light emitting device

IT Phosphors

(electroluminescent; polymeric fluorescent substances and their production and polymer light-emitting devices using them)

IT Electroluminescent devices

Fluorescent substances

(polymeric fluorescent substances and their production and polymer light-emitting devices using them)

IT 366-18-7DP, 2,2'-Bipyridyl, polymer with pyridineiridium and dioctyldibromofluorene 636-28-2DP, polymer with diocylfluorene-dioxaborolane and dioctylbromofluorene 198964-46-4DP, polymer with diocylfluorene-dioxaborolane and tetrabromobenzene 198964-46-4DP, polymer with pyridineiridium and bipyridyl 210347-49-2DP, polymer with diocylbromofluorene and tetrabromobenzene 364627-16-7P 364627-29-2P 364627-42-9DP, polymer with diocylfluorene-dioxaborolane and dioctylbromofluorene

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(polymeric fluorescent substances and their production and polymer light-emitting devices using them)

IT 1008-89-5, 2-Phenylpyridine 7726-95-6, Bromine, reactions 15635-87-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymeric fluorescent substances and their production and polymer light-emitting devices using them)

IT 364732-76-3P, 2-(Bromophenyl)pyridine 364732-77-4P,

Tris[2-(bromophenyl)pyridine]iridium(III) 364732-79-6P,

Bis[2-(phenyl)pyridine]mono[2-(bromophenyl)pyridine]iridium(III)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymeric fluorescent substances and their production and polymer light-emitting devices using them)

IT 364732-77-4P, Tris[2-(bromophenyl)pyridine]iridium(III)

364732-79-6P, Bis[2-(phenyl)pyridine]mono[2-

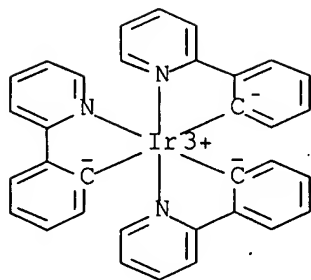
(bromophenyl)pyridine]iridium(III)

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymeric fluorescent substances and their production and polymer light-emitting devices using them)

RN 364732-77-4 HCAPLUS

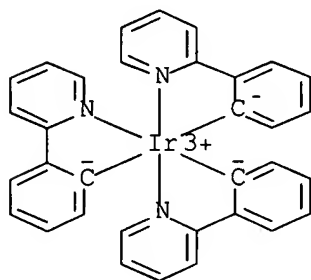
CN Iridium, tris[bromo-2-(2-pyridinyl-kN)phenyl-kC]- (9CI) (CA INDEX NAME)



3 (D1-Br)

RN 364732-79-6 HCAPLUS

CN Iridium, [bromo-2-(2-pyridinyl-κN)phenyl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]- (9CI) (CA INDEX NAME)



D1-Br

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Fei, W	2000			US 6025462 A	HCAPLUS
Hsieh, B	1998			US 5817430 A	HCAPLUS
Hsieh, B	1999			US 5945502 A	HCAPLUS
Isis Innovation	1999			WO 9921935 A	HCAPLUS
Mitsubishi Chem	2000			JP 2000239360 A	HCAPLUS
Sumitomo	1999			EP 0964045 A	HCAPLUS
The Regents Of The Univ	1994			WO 9420589 A	HCAPLUS

L92 ANSWER 53 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:692268 HCAPLUS Full-text

DN 135:249181

TI Organic electroluminescent devices

IN Kido, Junji; Ebisawa, Akira

PA TDK Corporation, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

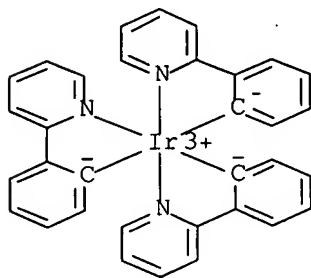
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001257076	A	20010921	JP 2000-68363	20000313 <--
PRAI	JP 2000-68363		20000313	<--	
AB	The devices comprise a hole and an electron injecting electrode interposing a phosphor layer comprising a non-conjugated polymer host containing a VIII group metal complex dopant.				
IC	ICM H05B0033-14 ICS C09K0011-06; H01L0033-00; H05B0033-22				
CC	73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties) Section cross-reference(s): 29				
ST	org electroluminescent metal complex dopant phosphor				
IT	Polymers, uses RL: DEV (Device component use); USES (Uses) (conjugated; organic electroluminescent devices)				
IT	Dopants Electronics Phosphorescence Phosphors Thermal stability (organic electroluminescent devices)				
IT	Coordination compounds RL: DEV (Device component use); USES (Uses) (organic electroluminescent devices)				
IT	Materials (organic; organic electroluminescent devices)				
IT	7439-88-5, Iridium, uses 7440-06-4, Platinum, uses 15082-28-7 25067-59-8, Polyvinylcarbazole 50926-11-9, ITO 78099-29-3 94928-86-6 155090-83-8, Poly(3,4-ethylenedioxythiophene-polystyrenesulphonate) RL: DEV (Device component use); USES (Uses) (organic electroluminescent devices)				
IT	94928-86-6 RL: DEV (Device component use); USES (Uses) (organic electroluminescent devices)				
RN	94928-86-6 HCAPLUS				
CN	Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI) (CA INDEX NAME)				



TI Complexes of form L2MX as **phosphorescent** dopants for organic LEDs

IN Thompson, Mark E.; Djurovich, Peter; Lamansky, Sergey; Murphy, Drew; Kwong, Raymond; Abdel-Razzaq, Feras; Forrest, Stephen R.; Baldo, Marc A.; Burrows, Paul E.

PA Trustees of Princeton University, USA; University of Southern California

SO PCT Int. Appl., 88 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001041512	A1	20010607	WO 2000-US32511	20001129 <--
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1252803	A1	20021030	EP 2000-980863	20001129 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	JP 2003515897	T	20030507	JP 2001-541304	20001129 <--
	CN 1840607	A	20061004	CN 2005-10109631	20001129 <--
	TW 581762	B	20040401	TW 2000-89125494	20001130 <--
	JP 2005344124	A	20051215	JP 2005-241794	20050823 <--
PRAI	US 1999-452346	A	19991201	<--	
	CN 2000-817482	A3	20001129	<--	
	JP 2001-541304	A3	20001129	<--	
	WO 2000-US32511	W	20001129	<--	

OS MARPAT 135:53380

AB Organic light-emitting devices are described in which an emitter layer comprises compds. (e.g., as dopants within a host) which are described by the general formula L2MX (L and X are inequivalent bidentate ligands; and M is a metal which forms octahedral complexes). Devices with emitter layers comprising **phosphorescent** compds. described by the general formula LL'L"M (L, L', and L" = inequivalent bidentate ligands) and comprising L'''2M (L''' = a monoanionic bidentate ligand coordinated to M through an sp² carbon and a heteroatom; and wherein the heteroatoms of the two L ligands are in a trans configuration) are also described. The preparation of L2MX by combining a bridged dimer described by the general formula L2M(μ-Cl)2ML2 with a Bronsted acid XH to make an organometallic complex of formula LMX is also described. Synthetic options allow insertion of fluorescent mols. into a **phosphorescent** complex, ligands to fine tune the color of emission, and ligands to trap carriers. 3-Methoxy-2-phenylpyridine.

IC ICM H05B0033-14

ICS C07D0213-02; C07D0215-02; C07D0231-12; C07D0263-57; C07D0277-66; C07D0333-50; C07D0409-04; C07D0417-04

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 29, 74, 76, 78

ST **phosphorescent** cyclometallated complex dopant org light emitting device; iridium complex dopant org light emitting device; osmium complex dopant org light emitting device; platinum complex dopant org light emitting device

IT Phosphors

(electroluminescent; phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT Electroluminescent devices

(organic; phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT Fluorescent substances

Phosphorescent substances

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 7440-04-2D, Osmium, compds. with organic ligands, uses 7440-06-4D, Platinum, compds. with organic ligands, uses 37271-44-6 50926-11-9, Indium tin oxide 57102-62-2D, derivs. 58328-31-7 58328-31-7D, derivs. 212385-75-6D, derivs. 344406-74-2D, derivs.

RL: DEV (Device component use); USES (Uses)

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT 57175-14-1P 337526-85-9P 337526-86-0P 337526-87-1P 337526-88-2P
337526-89-3P 337526-91-7P 337526-98-4P 343978-74-5P
343978-75-6P 343978-76-7P 343978-77-8P 343978-78-9P 343978-79-0P
343978-82-5P 343978-86-9P 343978-88-1P 343978-92-7P 343978-94-9P
343978-96-1P 343978-99-4P 344426-19-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT 86-55-5, 1-Naphthoic acid 95-55-6, 2-Aminophenol 98-98-6, Picolinic acid 123-54-6, Acetylacetone, reactions 148-24-3, 8-Hydroxyquinoline, reactions 230-27-3, 7,8-Benzoquinoline 1126-00-7, 1-Phenylpyrazole 1522-22-1, Hexafluoroacetylacetone 3117-65-5 4467-06-5, 2-(p-Tolyl)pyridine 10025-83-9, Iridium trichloride 15635-87-7, Iridium trisacetylacetonate 53698-49-0, 3-Methoxy-2-phenylpyridine 70546-18-8 116563-45-2 337526-80-4 338387-34-1 338387-84-1
343978-71-2 343978-72-3 343978-73-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

IT 3164-18-9P, 2-(1-Naphthyl)benzoxazole 343978-90-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

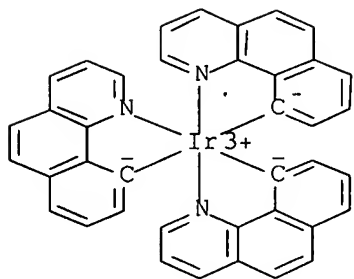
IT 337526-98-4P 343978-74-5P 344426-19-3P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(phosphorescent cyclometallated complex dopants for organic light-emitting devices and their preparation)

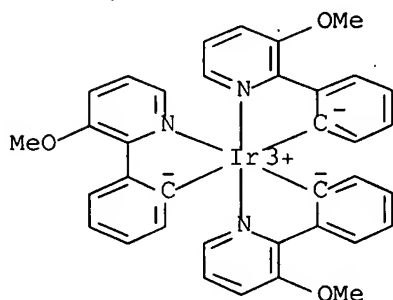
RN 337526-98-4 HCAPLUS

CN Iridium, tris(benzo[h]quinolin-10-yl-KC,KN)-, (OC-6-22)-(9CI)
(CA INDEX NAME)



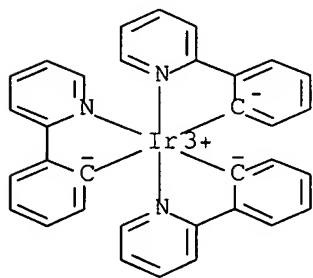
RN 343978-74-5 HCAPLUS

CN Iridium, tris[2-(3-methoxy-2-pyridinyl-κN)phenyl-κC]-, (OC-6-21)- (9CI) (CA INDEX NAME)



RN 344426-19-3 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-21)- (9CI) (CA INDEX NAME)



RETABLE

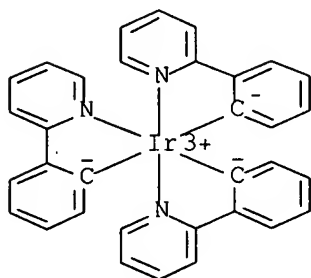
Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Baldo	1999	75	4	Applied Physics Lett	HCAPLUS
Barton	1995			US 5439794 A	HCAPLUS
Forrest	1997			US 5703436 A	HCAPLUS
Kirlin	1998			US 5840897 A	HCAPLUS

L92 ANSWER 55 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:400133 HCAPLUS Full-text

DN 135:202186
 TI Optimization of driving lifetime durability in organic LED devices using Ir complex
 AU Watanabe, Teruichi; Nakamura, Kenji; Kawami, Shin; Fukuda, Yoshinori; Tsuji, Taishi; Wakimoto, Takeo; Miyaguchi, Satoshi
 CS Corporate R&D Laboratories, Pioneer Corporation, Tsurugashima, Saitama, 350-02, Japan
 SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4105 (Organic Light-Emitting Materials and Devices IV), 175-182
 CODEN: PSISDG; ISSN: 0277-786X
 PB SPIE-The International Society for Optical Engineering
 DT Journal
 LA English
 AB Multilayer organic light-emitting device with phosphorescent guest emitter, tris(2-phenylpyridine)iridium [Ir(ppy)3] doped in a host 4,4'-N,N'-dicarbazolylbiphenyl (CBP) layer, exhibited very high luminous efficiency. A device having such phosphorescent guest emitter could not offer sufficiently long driving lifetime required by real products. Phosphorescence in organic mols. rarely occurs at room temperature Ways were studied to increase driving lifetime by 3 types of expts. Whether the driving lifetime is dependent on guest mol. concentration was studied. Cu phthalocyanine (CuPc) was inserted between In Sn Oxide (ITO) anode and hole transport layer, 4,4'-bis[N-(naphthyl)-N-phenylamino]biphenyl (NPB) to prevent driving voltage from rising during constant current operation. The hole blocking layer, which is 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP), was exchanged for [(1,1'-biphenyl)-4-olato]bis(2-methyl-8-quinolinolato- N1,O8)aluminum (BALq). Optimizing all of the above mentioned steps, the half decay lifetime of $\geq 20,000$ h at an initial luminance of 100 cd/m² by constant current driving can be expected.
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 IT Luminescence, electroluminescence
 Phosphorescence
 (of organic LED devices using iridium phenylpyridine complex)
 IT Electroluminescent devices
 (optimization of driving lifetime durability using iridium phenylpyridine complex in)
 IT 94928-86-6, Tris(2-phenylpyridine)iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (optimization of driving lifetime durability in organic LED devices using)
 IT 147-14-8, Copper phthalocyanine 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 12057-24-8, Lithium oxide, uses 50926-11-9, Indium tin oxide 123847-85-8 146162-54-1
 RL: DEV (Device component use); USES (Uses)
 (optimization of driving lifetime durability in organic LED devices using iridium phenylpyridine complex and containing)
 IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl
 RL: DEV (Device component use); USES (Uses)
 (optimization of driving lifetime durability in organic LED devices using iridium phenylpyridine complex in)
 IT 94928-86-6, Tris(2-phenylpyridine)iridium
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
 (optimization of driving lifetime durability in organic LED devices using)
 RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-κN)phenyl-κC]-, (OC-6-22) - (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Anon				US 5061569	HCAPLUS
Baldo, M	1999	75	4	Appl Phys Lett	HCAPLUS
Baldo, M	1998	395	151	Nature	HCAPLUS
Fukuda, Y	1999	430		SID 99 Digest	
Hamada, Y	1995	34	L824	Jpn J Appl Phys	HCAPLUS
Nagayama, K	1997	36	L1555	Jpn J Appl Phys	HCAPLUS
Nakada, H	1994	43	2450	Polymer Preprints	
Nakamura, H	1996		95	in proceedings of th	HCAPLUS
Shi, J	1997	70	1665	Appl Phys Lett	HCAPLUS
Tsutsui, T	1999	38	2799	Jpn J Appl Phys	HCAPLUS
Tsutsui, T	1999	38	L1502	Jpn J Appl Phys	HCAPLUS
VanSlyke, S	1996		195	in proceedings of th	HCAPLUS
Wakimoto, T	1997	44	1245	IEEE Trans Electron	HCAPLUS
Wakimoto, T	1996	849		SID 96 Digest	
Yahiro, M	2000		1302	Extended Abstracts (

L92 ANSWER 56 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:301025 HCAPLUS Full-text

DN 134:333991

TI Light-emitting devices

IN Heeks, Stephen Karl; Berger, Paul Raymond

PA Cambridge Display Technology Limited, UK

SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----	-----
PI	WO 2001029909	A1	20010426.	WO 2000-GB3911	20001012 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

GB 2371679 A 20020731 GB 2002-8403 20001012 <--
 GB 2371679 B 20040519
 US 2003193796 A1 20031016 US 2002-122685 20020415 <--
 PRAI GB 1999-24515 A 19991015 <--
 WO 2000-GB3911 W 20001012 <--

AB Light-emitting devices and displays are described which comprise ≥ 1 region of phosphorescent material; and ≥ 1 individually actuatable region of organic light-emitting material capable of emitting radiation of a wavelength that can excite the phosphorescent material to phosphoresce, each region of organic light-emitting material being arranged for emitting radiation to a resp. region of phosphorescent material to cause phosphorescence of the material in that region. Methods of fabricating the devices entailing forming the light-emitting and phosphor layers are also described.

IC ICM H01L0051-20
 ICS H01L0033-00; H01L0027-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 74, 76

ST org light emitting device phosphor region

IT Phosphors
 Semiconductor device fabrication
 (organic light-emitting devices and displays with phosphor regions and their fabrication)

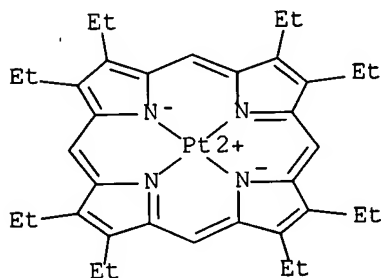
IT Electroluminescent devices
 (organic; organic light-emitting devices and displays with phosphor regions and their fabrication)

IT 31248-39-2, Platinum octaethylporphyrin
 RL: DEV (Device component use); USES (Uses)
 (organic light-emitting devices and displays with phosphor regions and their fabrication)

IT 31248-39-2, Platinum octaethylporphyrin
 RL: DEV (Device component use); USES (Uses)
 (organic light-emitting devices and displays with phosphor regions and their fabrication)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-kN21,kN22,kN23,kN24]-, (SP-4-1)- (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Eastman Kodak Co	1993			EP 0550063 A	HCAPLUS
Forrest, S	1999			US 5874803 A	HCAPLUS
Fuji Electric Co Ltd	1999			GB 2333897 A	HCAPLUS
Hattori, R	1998		663	SID SYMPOSIUM	

Lee, H	1998			US 5705285 A	HCAPLUS
Niko, A	1997	82	4177	JOURNAL OF APPLIED P	HCAPLUS
Philips Electronics	1997			WO 9748138 A	HCAPLUS

L92 ANSWER 57 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:283745 HCAPLUS Full-text

DN 134:305280

TI **Phosphorescence-based method and apparatus for determining the effect of a drug on cell respiration rate**

IN Wilson, David F.; Vinogradov, Sergei A.

PA Trustees of the University of Pennsylvania, USA

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001026609	A2	20010419	WO 2000-US28481	20001013 <--	
	WO 2001026609	A3	20020110			
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	US 6395555	B1	20020528	US 1999-418104	19991014 <--	
	CA 2386842	A1	20010419	CA 2000-2386842	20001013 <--	
	AU 2001012046	A	20010423	AU 2001-12046	20001013 <--	
	AU 781879	B2	20050616			
	EP 1224443	A2	20020724	EP 2000-973545	20001013 <--	
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL		
PRAI	US 1999-418104	A	19991014	<--		
	WO 2000-US28481	W	20001013	<--		

OS MARPAT 134:305280

AB A method is described for determining the effect of a drug or drugs on an attached culture of cells comprising (i) dissolving a **phosphorescent** compound, of known or predetd. quenching constant and lifetime at zero oxygen, in a culture medium at a selected temperature comprising an attached culture of test cells; (ii) introducing the drug(s), whose effect on the test cells is to be determined, into the culture medium; (iii) illuminating the culture medium with pulsed or modulated light at a level sufficient to cause the **phosphorescent** compound to emit measurable **phosphorescence**; (iv) measuring the emitted **phosphorescence**; and (v) calculating the **phosphorescence** lifetime and oxygen concentration gradient in the medium, thereby determining the effect of the drug on the respiration rate of the cells at the selected temperature. Apparatus for carrying out the method is also disclosed.

IC ICM A61K

CC 1-1 (Pharmacology)

ST drug effect cell respiration **phosphorescence** app

IT Analysis

Process automation

(automated anal.; **phosphorescence-based method and apparatus for determining drug effect on cell respiration rate**)

IT Animal tissue culture

Apparatus

Avalanche photodiodes
 Cell death
 Cell proliferation
 Drug screening
 Drugs
 Flash lamps
 Metabolism
 Phosphorescence quenching
 Phosphorescent substances
 Phosphorimetry
 Photodiodes
 Photomultipliers
 Respiration, animal
 Video cameras
 (phosphorescence-based method and apparatus for determining drug effect
 on cell respiration rate)
 IT Porphyrins
 RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (phosphorescence-based method and apparatus for determining drug effect
 on cell respiration rate)
 IT Spectrometers
 (phosphorimeters; phosphorescence-based method and apparatus for
 determining drug effect on cell respiration rate)
 IT Dendritic polymers
 RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (porphyrin; phosphorescence-based method and apparatus for determining
 drug effect on cell respiration rate)
 IT Electroluminescent devices
 (pulsed light-emitting diode; phosphorescence-based method
 and apparatus for determining drug effect on cell respiration rate)
 IT Lasers
 (pulsed; phosphorescence-based method and apparatus for determining drug
 effect on cell respiration rate)
 IT Coordination compounds
 RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (with porphyrins; phosphorescence-based method and apparatus for
 determining drug effect on cell respiration rate)
 IT 7782-44-7, Oxygen, biological studies
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)
 (phosphorescence-based method and apparatus for determining drug effect
 on cell respiration rate)
 IT 917-23-7D, derivs., metal complexes 7429-90-5D, Aluminum, porphyrin
 complexes, biological studies 7439-91-0D, Lanthanum, porphyrin
 complexes, biological studies 7439-94-3D, Lutetium, porphyrin complexes,
 biological studies 7440-05-3D, Palladium, porphyrin complexes
 7440-06-4D, Platinum, porphyrin complexes, biological studies
 7440-31-5D, Tin, porphyrin complexes, biological studies 7440-65-5D,
 Yttrium, porphyrin complexes, biological studies 7440-66-6D, Zinc,
 porphyrin complexes, biological studies 14074-80-7 14187-13-4D, and
 derivs., metal complexes 14187-14-5 14586-52-8 14609-54-2D,
 derivs., metal complexes 27647-84-3 34439-72-0 52952-31-5D,
 29H,31H-Tetrabenzo[b,g,l,q]porphine, derivs., metal complexes 56551-50-9
 59828-80-7 59828-88-5 73065-50-6 73523-25-8D, derivs., metal
 complexes 73797-39-4 80528-89-8D, derivs., metal complexes
 80529-82-4 94288-44-5D, and derivs., metal complexes 94288-45-6.
 97138-93-7D, derivs., metal complexes 97179-94-7 119654-64-7

123458-16-2D, derivs., metal complexes 152544-47-3 152544-64-4
 154034-65-8 161589-08-8 166174-05-6 166174-12-5
 166174-13-6 197451-64-2 216095-28-2 334987-58-5
 334987-59-6 334987-60-9 334987-61-0 334987-62-1 334987-63-2
 334987-64-3 334987-65-4 334987-66-5 334987-67-6 334987-68-7
 334987-69-8 334987-70-1 334987-71-2 334987-72-3 334987-73-4
 334987-74-5 334987-75-6 334987-76-7 334987-77-8 334987-78-9
 334987-79-0 334987-80-3 334987-81-4

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)

(phosphorescence-based method and apparatus for determining drug effect
 on cell respiration rate)

IT 24991-23-9 25513-46-6, Polyglutamic acid

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)

(polyglutamate dendritic cages; phosphorescence-based method
 and apparatus for determining drug effect on cell respiration rate)

IT 14187-14-5 73797-39-4 94288-45-6

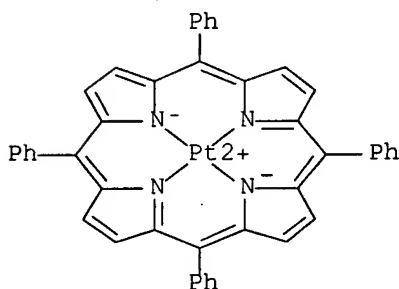
166174-05-6 166174-13-6 334987-79-0
 334987-81-4

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)

(phosphorescence-based method and apparatus for determining drug effect
 on cell respiration rate)

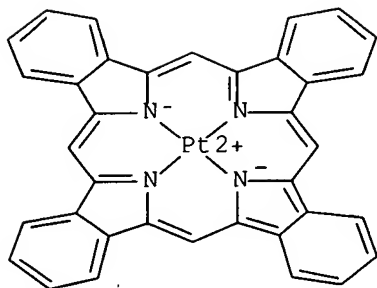
RN 14187-14-5 HCAPLUS

CN Platinum, [5,10,15,20-tetraphenyl-21H,23H-porphinato(2-)-
 κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX
 NAME)



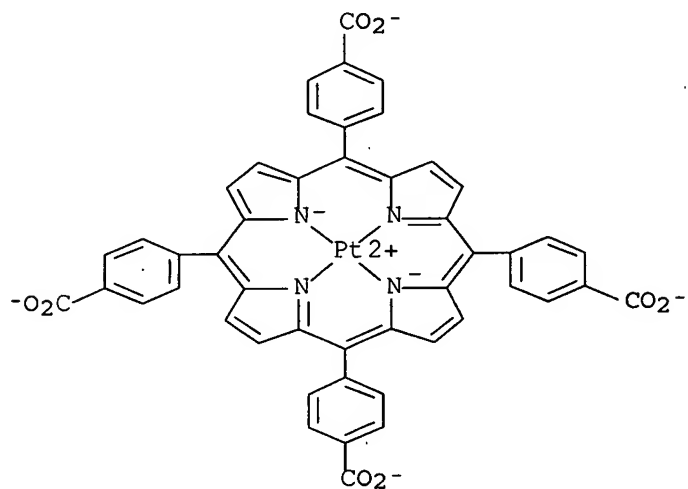
RN 73797-39-4 HCAPLUS

CN Platinum, [29H,31H-tetrabenzo[b,g,l,q]porphinato(2-)-
 κN29,κN30,κN31,κN32]-, (SP-4-1)- (9CI) (CA INDEX
 NAME)



RN 94288-45-6 HCAPLUS
 CN Platinate(4-), [[4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-tetrayl-
 κN21,κN22,κN23,κN24)tetrakis[benzoato]](6-)]-,
 tetrahydrogen, (SP-4-1)-(9CI) (CA INDEX NAME)

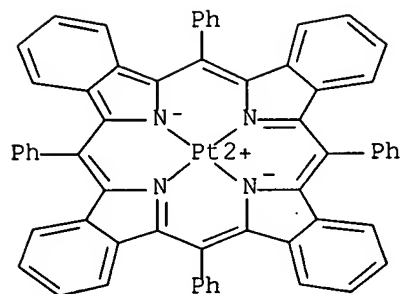
PAGE 1-A



PAGE 2-A

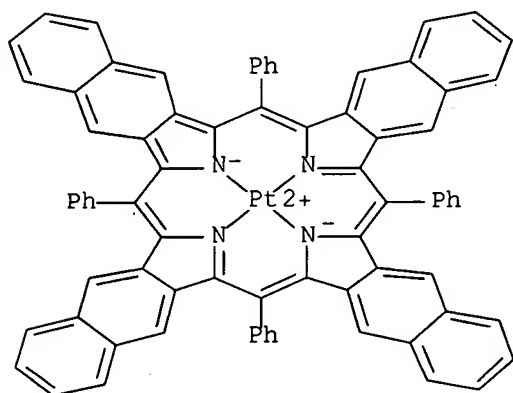
●4 H⁺

RN 166174-05-6 HCAPLUS
 CN Platinum, [6,13,20,27-tetraphenyl-29H,31H-tetrabenzo[b,g,l,q]porphinato(2-
)-κN29,κN30,κN31,κN32]-, (SP-4-1)-(9CI) (CA
 INDEX NAME)



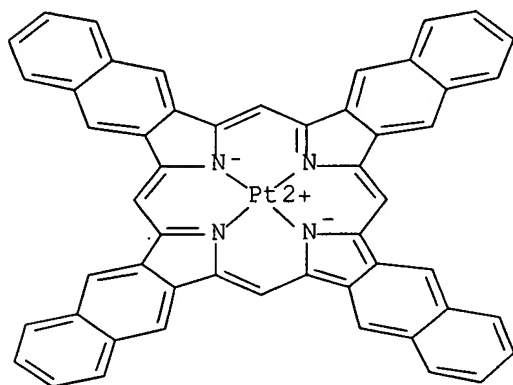
RN 166174-13-6 HCAPLUS

CN Platinum, [7,16,25,34-tetraphenyl-37H,39H-tetranaphtho[2,3-b:2',3'-g:2'',3'''-1:2''',3'''-q]porphinato(2-)-κN37,κN38,κN39,.kappa.N40]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 334987-79-0 HCAPLUS

CN Platinum, [37H,39H-tetranaphtho[2,3-b:2',3'-g:2'',3'''-1:2''',3'''-q]porphinato(2-)-κN37,κN38,κN39,κN40]-, (SP-4-1)- (9CI) (CA INDEX NAME)

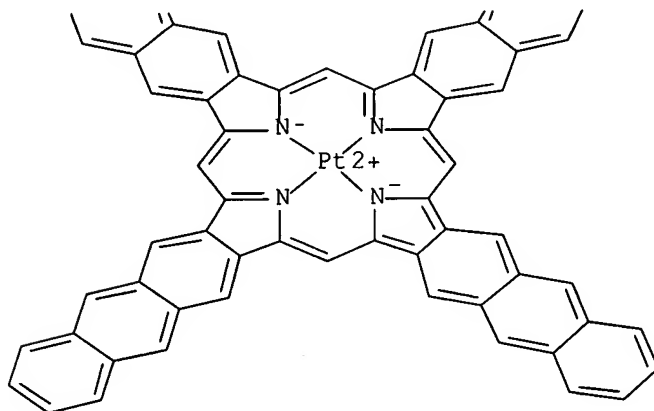


RN 334987-81-4 HCAPLUS
CN Platinum, [45H,47H-tetraanthra[2,3-b:2',3',g:2'',3''-1:2''',3'''-q]porphinato(2-)-κN45,κN46,κN47,κN48]-, (SP-4-1)-(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L92 ANSWER 58 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:163834 HCAPLUS Full-text
DN 135:172723
TI Optimization of emitting efficiency in organic LED cells using Ir complex
AU Watanabe, T.; Nakamura, K.; Kawami, S.; Fukuda, Y.; Tsuji, T.;
Wakimoto, T.; Miyaguchi, S.; Yahiro, M.; Yang, M.-J.; Tsutsui, T.
CS Corporate R&D Laboratories, Pioneer Corporation, Tsurugashima,
Saitama, Japan
SO Synthetic Metals (2001), 122(1), 203-207
CODEN: SYMEDZ; ISSN: 0379-6779
PB Elsevier Science S.A.

DT Journal
 LA English
 AB Multilayer organic light-emitting devices (OLED) with phosphorescent guest emitter, tris(2-phenylpyridine) Ir doped in a host 4,4'-N,N'-dicarbazol-biphenyl layer, were prepared. The authors optimized the cell structure paying special attention to the multiple reflection at the multilayers' interfaces and succeeded in improving the luminance efficiency. The authors' method consists of adjusting optical distances between emission sites and dominant reflective surfaces, organic/cathode and ITO/glass interfaces. The device with the 8.7 weight % Guest emitter exhibited external quantum efficiency and power luminous efficiency of 14.9% and 43.4 lm/W, resp. at the luminance of 100 cd/m² driven at the voltage of 4.2 V. In addition, the authors studied the emission site in the electrophosphorescent cells and recalcd. the external quantum efficiency by the actual emission pattern.

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

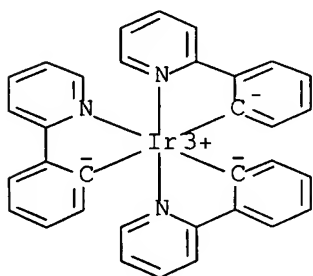
IT Electroluminescent devices
 Interference
 Optimization
 Phosphorescence
 (optimization of emitting efficiency in organic LED cells using Ir complex)

IT 94928-86-6, Tris(2-phenylpyridine) iridium
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (optimization of emitting efficiency in organic LED cells using Ir complex)

IT 94928-86-6, Tris(2-phenylpyridine) iridium
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
 (optimization of emitting efficiency in organic LED cells using Ir complex)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
 (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Amemiya, K	1991		1085	Proceedings of the A	
Baldo, M	1999	75	4	Appl Phys Lett	HCAPLUS
Baldo, M	1998	395	151	Nature	HCAPLUS
Fukuda, Y	1999		430	SID 99 Digest	
Hamada, Y	1995	34	L824	Jpn J Appl Phys	HCAPLUS
Miyaguchi, S	1998		137	Ext Abstr, in:Procee	

Nakamura, H	1996		95	Proceedings of the E	HCAPLUS
Shi, J	1997	70	1665	Appl Phys Lett	HCAPLUS
Tsutsui, T	1999	38	2799	Jpn J Appl Phys	HCAPLUS
Tsutsui, T	1999	38	L1502	Jpn J Appl Phys	HCAPLUS
Wakimoto, T	1997	44	1245	IEEE Trans Electron	HCAPLUS
Wakimoto, T	1996		849	SID 96 Digest	

L92 ANSWER 59 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2000:824550 HCAPLUS Full-text

DN 134:11317

TI Very high efficiency organic light emitting devices based on electrophosphorescence

IN Baldo, Marc A.; Burrows, Paul E.; Forrest, Stephen R.; Thompson, Mark E.; Lamansky, Sergey

PA The Trustees of Princeton University, USA; The University of Southern California

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA English

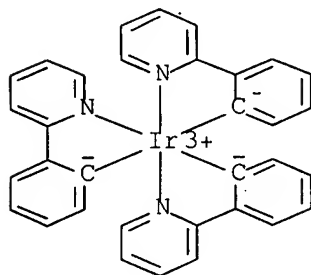
FAN.CNT 5

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	WO 2000070655	A3	20040527		
	W:				
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	CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,				
	ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,				
	LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,				
	SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW:				
	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ,				
	MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,				
	IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML,				
	MR, NE, SN, TD, TG				
	AU 200050047	A	20001205	AU 2000-50047	20000511 <--
	BR 2000010424	A	20020213	BR 2000-10424	20000511 <--
	JP 2003526876	T	20030909	JP 2000-619011	20000511 <--
	EP 1449238	A2	20040825	EP 2000-932308	20000511 <--
	EP 1449238	B1	20061102		
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	IE, SI, LT, LV, FI, RO, MK, CY, AL				
	CN 1572029	A	20050126	CN 2000-807509	20000511 <--
	AT 344532	T	20061115	AT 2000-932308	20000511 <--
	EP 1729327	A1	20061206	EP 2006-16911	20000511 <--
	R:				
	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,				
	NL, PT, SE, AL, LT, LV, MK, RO, SI				
	TW 500787	B	20020901	TW 2000-89109390	20000515 <--
	IN 2001MN01348	A	20060113	IN 2001-MN1348	20011031 <--
	IN 2006MN00422	A	20070511	IN 2006-MN422	20060412 <--
PRAI	US 1999-311126	A	19990513	<--	
	EP 2000-932308	A3	20000511	<--	
	WO 2000-US12946	W	20000511	<--	
	IN 2001-MN1348	A3	20011031	<--	
OS	MARPAT 134:11317				
AB	Electroluminescent layers are described which comprise an emitting layer including an emissive mol. that is a phosphorescent organometallic iridium compound or a phosphorescent organometallic osmium compound. Organic electroluminescent devices employing the layers are also described.				
IC	ICM H01L				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related				

Properties)

Section cross-reference(s): 76, 78

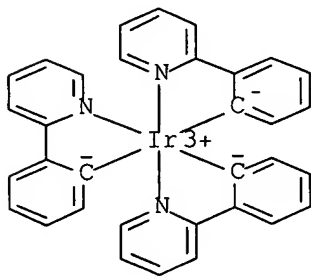
- ST electrophosphorescent organometallic compd electroluminescent layer org light emitting device; organoiridium electrophosphorescent compd electroluminescent layer; organoosmium electrophosphorescent compd electroluminescent layer
- IT Transition metal complexes
RL: DEV (Device component use); USES (Uses)
(electroluminescent layers and organic light-emitting devices based on electrophosphorescent organoiridium or organoosmium compds.)
- IT Phosphors
(electroluminescent; electroluminescent layers and organic light-emitting devices based on electrophosphorescent organoiridium or organoosmium compds.)
- IT Electroluminescent devices
(organic; electroluminescent layers and organic light-emitting devices based on electrophosphorescent organoiridium or organoosmium compds.)
- IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline 7235-69-0D, 1,3-Benzenedimethanimine, derivs., compds. with osmium 7440-04-2D, Osmium, compds. with 1,3-benzenedimethanimine derivs., uses 58328-31-7 94928-86-6 123847-85-8, 4,4'-Bis[N-(1-naphthyl)-N-phenylaminol]biphenyl
RL: DEV (Device component use); USES (Uses)
(electroluminescent layers and organic light-emitting devices based on electrophosphorescent organoiridium or organoosmium compds.)
- IT 94928-86-6
RL: DEV (Device component use); USES (Uses)
(electroluminescent layers and organic light-emitting devices based on electrophosphorescent organoiridium or organoosmium compds.)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



- L92 ANSWER 60 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN
- AN 2000:648118 HCAPLUS Full-text
- DN 133:327530
- TI High quantum efficiency in organic light-emitting devices with iridium-complex as a triplet emissive center
- AU Tsutsui, Tetsuo; Yang, Moon-Jae; Yahiro, Masayuki; Nakamura, Kenji;

- Watanabe, Teruichi; Tsuji, Taishi; Fukuda, Yoshinori; Wakimoto, Takeo; Miyaguchi, Satoshi
- CS Department of Applied Science for Electronics and Materials, Graduate School of Engineering Sciences, Kyushu University, Fukuoka, 816-8580, Japan
- SO Japanese Journal of Applied Physics, Part 2: Letters (1999), 38(12B), L1502-L1504
CODEN: JAPL88; ISSN: 0021-4922
- PB Japan Society of Applied Physics
- DT Journal
- LA English
- AB Multilayer organic light-emitting devices with phosphorescent guest emitter, tris(2-phenylpyridine)iridium doped in a host 4,4'-N,N'-dicarbazolbiphenyl layer were prepared. The device with the 6.5 wt% guest emitter exhibited external quantum efficiency and power luminous efficiency of 13.7% and 38.31 m/W, resp. at the luminance of 105 cd/m² driven at the voltage of 4.0 V and c.d. of 0.215 mA/cm². The half decay lifetime under continuous constant-current driving for the initial luminance of 500 cd/m² was 170 h.
- CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
- ST org light emitting device phenylpyridine iridium complex
phosphorescence triplet; quantum efficiency phosphorescent iridium complex
org light emitting device; LED quantum efficiency phosphorescent iridium complex;
electroluminescent display LED quantum efficiency phosphorescent iridium complex
- IT Luminescence, electroluminescence
Triplet state excitation
(high quantum efficiency of LED containing tris(phenylpyridine)iridium as phosphorescent emissive center)
- IT Phosphorescence
Triplet state transition
(high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT Electroluminescent devices
(organic; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT Triplet state
Triplet state
(triplet-triplet energy transfer; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT Energy transfer
Energy transfer
(triplet-triplet; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 50926-11-9, ITO
RL: DEV (Device component use); USES (Uses)
(anode; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 12057-24-8, Lithium oxide, uses
RL: DEV (Device component use); USES (Uses)
(cathode material; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(cathode; high quantum efficiency of organic light-emitting

- devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 58328-31-7, 4,4'-N,N'-Dicarbazolylbiphenyl
RL: DEV (Device component use); USES (Uses)
(charge carrier; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 2085-33-8, Tris-(8-hydroxyquinoline) aluminum
RL: DEV (Device component use); USES (Uses)
(electron transport agent; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 4733-39-5, 2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline
RL: DEV (Device component use); USES (Uses)
(electron transport/hole blocking layer; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 123847-85-8, α -NPD
RL: DEV (Device component use); USES (Uses)
(hole transport agent; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 94928-86-6
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(triplet emitter; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- IT 94928-86-6
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(triplet emitter; high quantum efficiency of organic light-emitting devices containing tris(phenylpyridine)iridium as triplet emissive center)
- RN 94928-86-6 HCAPLUS
- CN Iridium, tris[2-(2-pyridinyl-kN)phenyl-kC]-, (OC-6-22)- (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Baldo, M	1999	75	4	Appl Phys Lett	HCAPLUS
Baldo, M	1998	395	151	Nature	HCAPLUS
Cao, Y	1999	397	414	Nature	HCAPLUS
Dedeian, K	1991	30	1685	Inorg Chem	HCAPLUS
Friend, R	1999	397	121	Nature	HCAPLUS
Fukuda, Y	1999		430	SID Dig	

Greenham, N	1993	365	628	Nature	HCAPLUS
Hamada, Y	1995	34	L824	Jpn J Appl Phys	HCAPLUS
Helfrich, W	1966	44	2902	J Chem Phys	HCAPLUS
Hosokawa, C	1995	67	3853	Appl Phys Lett	HCAPLUS
Kido, J	1994	65	2124	Appl Phys Lett	HCAPLUS
Kido, J	1998	73	2721	Appl Phys Lett	HCAPLUS
Lees, A	1987	87	711	Chem Rev	HCAPLUS
Nakada, H	1994	43	2450	Polym Preprints	
Spreitzer, H	1998	10	1340	Adv Mater	HCAPLUS
Tang, C	1987	51	913	Appl Phys Lett	HCAPLUS
Tang, C	1989	65	3610	J Appl Phys	HCAPLUS
Tsutsui, T	1993		123	Intrinsically Conduc	HCAPLUS
Tsutsui, T	1999	38	2799	Jpn J Appl Phys	HCAPLUS
Tsutsui, T	1997	22	39	MRS Bulletin	HCAPLUS
Tsutsui, T	1991		437	Photochemical Proces	HCAPLUS
Wakimoto, T	1997	44	1245	IEEE Trans Electron	HCAPLUS
Wakimoto, T	1991	40	3600	Polym Preprints	
Zhang, X	1997	71	2596	Appl Phys Lett	HCAPLUS

L92 ANSWER 61 OF 61 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:271604 HCAPLUS Full-text

DN 130:303836

TI Highly transparent non-metallic cathodes

IN Forrest, Stephen R.; Burrows, Paul; Parthasarathy, Gautam; O'Brien, Diarmuid; Thompson, Mark E.; Yu, Yujian; Shoustikov, Andrei; Petasis, Nicos A.; Sibley, Scott; Loy, Douglas; Koene, Brian E.; Kwong, Raymond C.

PA The Trustees of Princeton University, USA; The University of Southern California

SO PCT Int. Appl., 165 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9920081	A2	19990422	WO 1998-US21171	19981008 <--
	WO 9920081	A3	19990826		
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6469437	B1	20021022	US 1997-964863	19971105 <--
	US 6303238	B1	20011016	US 1997-980986	19971201 <--
	US 6451455	B1	20020917	US 1998-53030	19980401 <--
	US 6420031	B1	20020716	US 1998-54707	19980403 <--
	US 6150043	A	20001121	US 1998-58305	19980410 <--
	US 6413656	B1	20020702	US 1998-152960	19980914 <--
	AU 9910707	A	19990503	AU 1999-10707	19981008 <--
	EP 1044586	A2	20001018	EP 1998-953300	19981008 <--
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	JP 2001520450	T	20011030	JP 2000-516507	19981008 <--
	US 2001053463	A1	20011220	US 2001-900650	20010706 <--
	US 6579632	B2	20030617		
	US 2003203236	A1	20031030	US 2003-426456	20030430 <--

	US 6872477	B2	20050329		
	US 2005008897	A1	20050113	US 2004-913211	20040806 <--
	US 2005158584	A1	20050721	US 2005-61832	20050218 <--
	US 2005214570	A1	20050929	US 2005-61406	20050218 <--
	US 2006286409	A1	20061221	US 2006-509452	20060823 <--
PRAI	US 1997-948130	A	19971009	<--	
	US 1997-64005P	P	19971103	<--	
	US 1997-964863	A	19971105	<--	
	US 1997-980986	A	19971201	<--	
	US 1998-53030	A	19980401	<--	
	US 1998-54707	A	19980403	<--	
	US 1998-58305	A	19980410	<--	
	US 1998-152960	A	19980914	<--	
	WO 1998-US21171	W	19981008	<--	
	US 2001-900650	A1	20010706	<--	
	US 2003-426456	A1	20030430	<--	
	US 2005-61406	A1	20050218	<--	
	US 2005-61832	A1	20050218	<--	
OS	MARPAT 130:303836				
AB	Cathodes are described which comprise an elec. conductive non-metallic layer in low-resistance elec. contact with a semiconductive organic layer; optoelectronic device comprising a device for converting elec. energy into optical energy (e.g., organic light-emitting devices and lasers), or optical energy into elec. energy, employing the cathodes are also described. Methods of fabricating optoelectronic devices are described which entail depositing an elec. conductive non-metallic layer on an organic layer so as to form an interface region at the surface of the organic layer that lowers the voltage drop across the two layers when the two layers are used as a cathode in an optoelectronic device. Organic light-emitting devices (OLEDs) in which the highly transparent non-metallic cathodes may be used are also described comprised of a charge carrier layer containing a compound having mols. that have ≥ 1 electron-transporting moiety and ≥ 1 hole-transporting moiety, OLEDs comprised of an emissive layer containing an azlactone-related dopant, OLEDs comprised of an emissive layer containing a phosphorescent dopant compound, and OLEDs comprised of a hole transporting layer containing a glassy organic hole-transporting material comprised of a compound having a sym. mol. structure. Azlactone derivs. and complexes suitable for use as the dopants are also described.				
IC	ICM H05B0033-26				
CC	73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)				
	Section cross-reference(s): 76				
ST	org optoelectronic device transparent nonmetallic cathode; laser transparent nonmetallic cathode; electroluminescent device transparent nonmetallic cathode; azlactone deriv electroluminescent device				
IT	Cathodes				
	Electroluminescent devices				
	Electroluminescent devices				
	Optoelectronic semiconductor devices				
	Photoelectric devices				
	Semiconductor device fabrication				
	Semiconductor lasers				
	(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)				
IT	Polyacenes				
	RL: DEV (Device component use); USES (Uses)				
	(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)				
IT	Azlactones				

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT Electric contacts

(transparent; transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 147-14-8, Copper phthalocyanine 826-81-3D, 2-Methyl-8-hydroxyquinoline, compds. with gallium or indium 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 7440-22-4, Silver, uses 7440-55-3D, Gallium, compds. with 2-methyl-8-quinolinolate, uses 7440-74-6D, Indium, compds. with 2-methyl-8-quinolinolate, uses 14320-04-8, Zinc phthalocyanine 37271-44-6 50926-11-9, Indium tin oxide 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 204200-08-8 204200-10-2 212385-85-8

RL: DEV (Device component use); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 31248-39-2

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 842-74-0P 1163-85-5P 1564-29-0P 1787-23-1P 66404-30-6P 108941-20-4P 222619-94-5P 223241-01-8P

RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 223240-97-9P 223240-98-0P 223241-00-7P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 22112-89-6P 128374-11-8P 222620-15-7P 222620-17-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 64-19-7, Acetic acid, reactions 76-05-1, Trifluoroacetic acid, reactions 84-58-2, 2,3-Dichloro-5,6-dicyanoquinone 100-10-7, p-Dimethylaminobenzaldehyde 100-52-7, Benzaldehyde, reactions 109-97-7, Pyrrole 123-08-0, p-Hydroxybenzaldehyde 127-09-3, Sodium acetate 463-71-8, Thiophosgene 495-69-2, Hippuric acid 543-24-8, N-Acetyl glycine 826-81-3, 8-Hydroxyquinoline 939-97-9, p-tert-Butylbenzaldehyde 1971-81-9, 4-Dimethylamino-1-naphthaldehyde 2645-07-0, 4-Nitrohippuric acid 4073-85-2, Aluminum propoxide 222619-99-0 222620-05-5 222620-10-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 15770-21-5P 21211-65-4P, 2,2'-Dipyrrylmethane 113697-08-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(transparent non-metallic cathodes and optoelectronic devices using them and their fabrication)

IT 31248-39-2

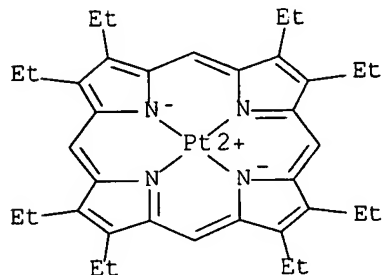
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(transparent non-metallic cathodes and optoelectronic devices

using them and their fabrication)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (CA INDEX NAME)

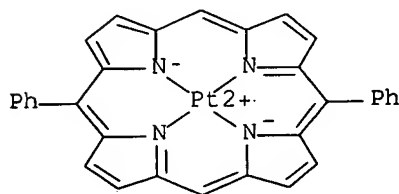


IT 223241-01-8P

RL: DEV (Device component use); MOA (Modifier or additive use); PRP
(Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(transparent non-metallic cathodes and optoelectronic devices
using them and their fabrication)

RN 223241-01-8 HCAPLUS

CN Platinum, [5,15-diphenyl-21H,23H-porphinato(2-)-
κN21,κN22,κN23,κN24]-, (SP-4-1)- (9CI) (CA INDEX
NAME)



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